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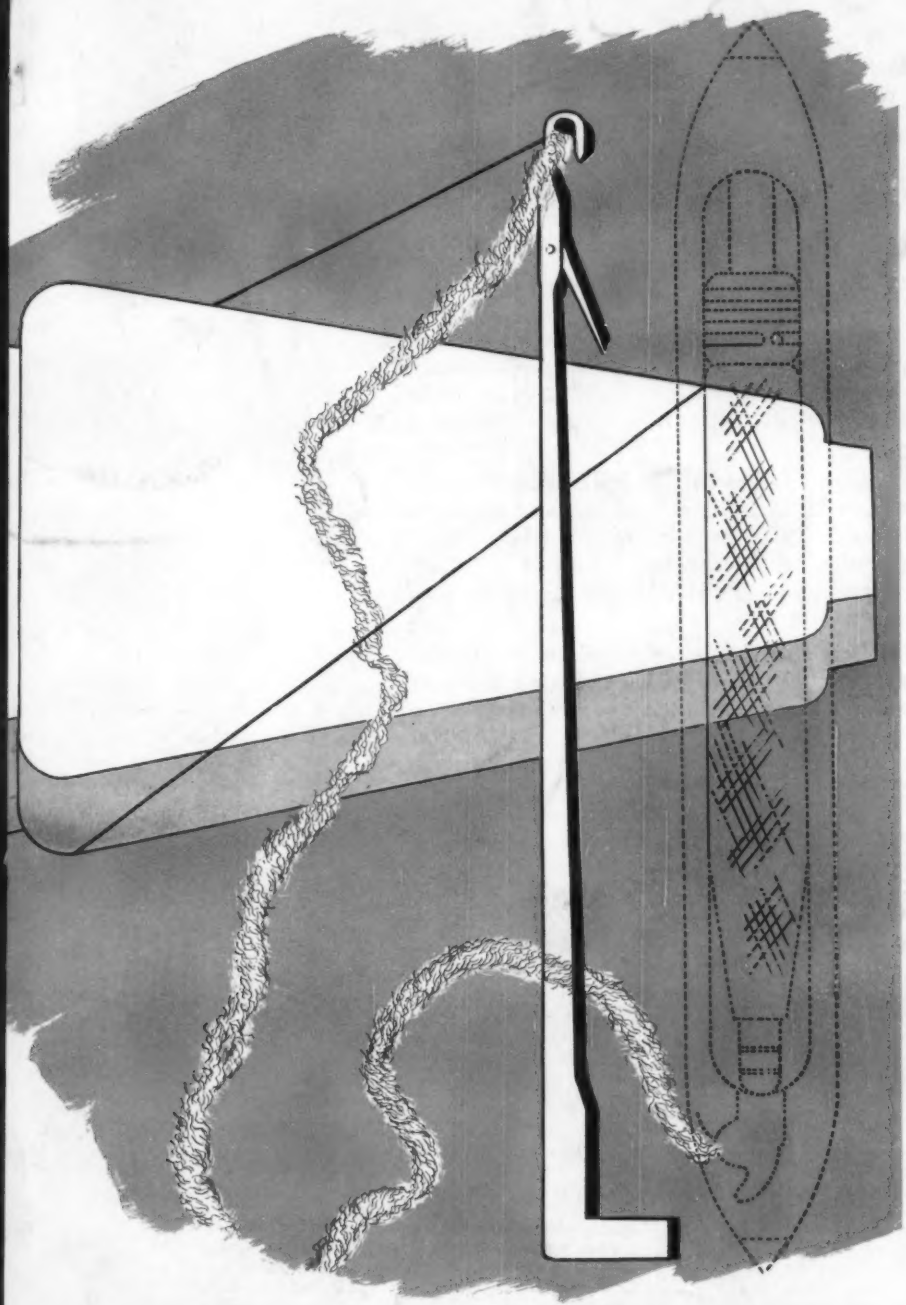
# Textile World

JUNE, 1955



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A McGRAW-HILL PUBLICATION GREENVILLE, S. C. NEW YORK, N. Y.

# Serving America's Textile Leaders

The multi-million dollar modernization program now underway at the Southern Bleachery and Print Works, Inc., at Taylors, S. C., highlights the significant growth of this outstanding firm.

This comprehensive modernization throughout the mill includes several large additions to existing facilities, installation of the latest high-production machinery and equipment and rearrangement of production flow along modern lines.

Robert and Company Associates, which for more than 40 years has been serving many of America's greatest textile names, is proud to be associated with Southern Bleachery and Print Work, Inc., as engineers on this large-scale modernization project.

**For Over 40 Years**

**ROBERT AND COMPANY ASSOCIATES**
Textile Engineering Division
ATLANTA

***Serving the Great Names in Textiles***

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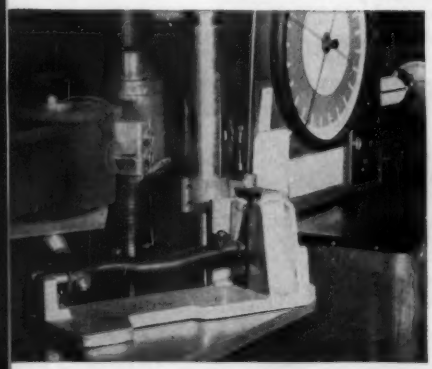
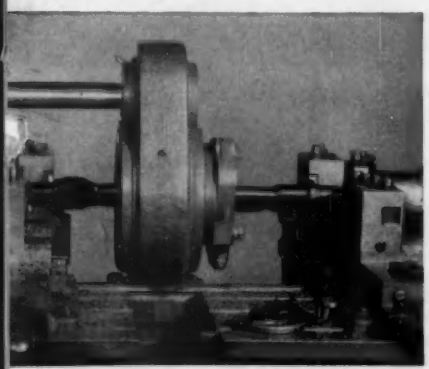


Iron and sample castings are checked daily in Draper Laboratories to meet rigid specifications.



Precision machine tools enable close tolerances to be held.

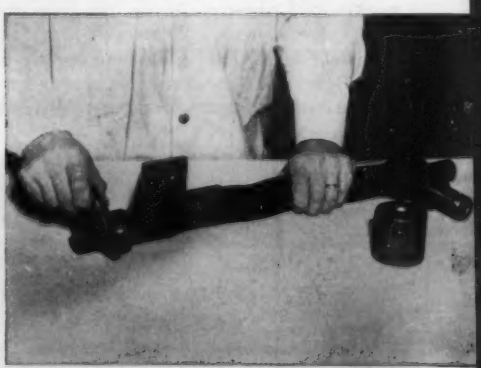
# ACCENT ON QUALITY... FROM START TO FINISH

Attention to detail — all along the line at Draper Corporation — brings you *important savings.*

Engineering developments and manufacturing refinements enable Draper to produce repair parts that have a higher degree of uniformity and quality.

*In the mill,* these are the repair parts that provide *longer, trouble-free service.*

When you use Draper repair parts exclusively on your looms, increased production, efficiency and profits are assured.



Use of gauges in final inspection permits high standards of uniformity and quality to be maintained.

**DRAPER** CORPORATION

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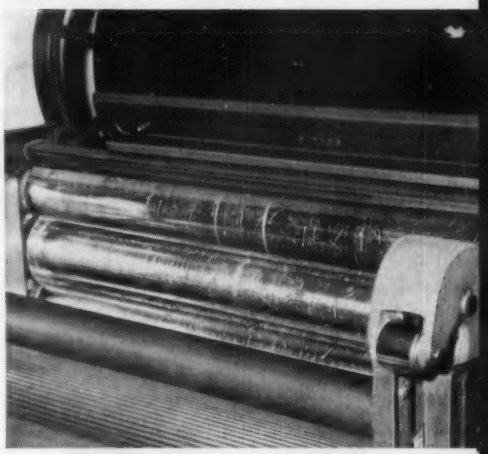
**NOT NAILED TO THE FLOOR!** Here's an idea for publicity men who used to create "gag shots" by nailing down shoes. Just use a piece of iron on the heel of the shoe and an Eriez Magnet set in the floor. To textile men, however, this demonstrates another idea — powerful magnetic action which can quickly be put to work pulling dangerous tramp iron out of processing lines in cotton, woolen, rayon and waste mills . . . tramp iron which causes fires, machinery damage and loss of production. *All Eriez Magnets are non-electric, self-contained. They operate without wires or attachments. Best of all their magnetic power lasts a lifetime. The first cost is the last.*

# MAGNETIC IDEAS FROM ERIEZ

**ERIEZ SPIKED APRON MAGNET PREVENTS FIRES.** Designed especially for textile use, these magnets pull dangerous tramp iron from material moving in processing lines in cotton, waste and woolen mills. Reports show that equipment protected by these magnets extends card and garnett clothing life four and five times. More important is the added benefit of Eriez Permanent Non-electric Magnets as a means of fire prevention, by removal of tramp iron. Eriez Spiked Apron Magnets are so efficient they bear the Associated Factory Mutual Stamp of Approval. A recent survey showed that *9 out of 10* mills preferred to equip with Eriez Permanent Magnets. Want more information? . . . request Bulletin 563.

**NO METAL MEDDLES IN THIS COTTON LINE.** Whitney Cotton Mills, Inc., Hamden, Conn., found that an inexpensive Eriez Magnetic Hump was the solution to dangerous fires and costly machine damage caused by tramp iron. The magnet, designed to remove nails, wire, pins, etc., from cotton tailings used for furniture backing, is located in the pneumatic line between a picker and condenser. Previously, tramp iron did extensive damage to garnetts and caused considerable downtime. Since installing the Magnetic Hump, production has increased, downtime has been eliminated, and an annual repair saving of approximately $3,000 for each of three garnetts has resulted.



**THE WOEFUL ROLE OF PICKER CALENDER ROLLS.** When's the last time you checked your calender rolls? Did they look like those above . . . damaged by pieces of stray metal that left lasting impressions, and also damaged lickerin and card clothing? Chances are, your own equipment has also suffered because of spikes from aprons, ring travelers, nails, screws, bottle tops, etc. But now you can prevent machinery damage, reduce downtime, and eliminate poor card performance with an Eriez Permanent Non-electric Magnet. Why not invite an Eriez representative to look at your equipment? He'll be glad to survey your plant and recommend one of the many Eriez Magnets designed specifically for the textile industry.

**Eriez' free booklet "Magnetic Ideas" can help you. Send for it without obligation. Address: Eriez Manufacturing Company, 101T Magnet Drive, Erie, Pa. Or, on your specific request Eriez' factory-trained field men backed by Eriez' laboratory and engineering know-how will be happy to study your particular problem, make a plant survey and offer helpful "Magnetic Ideas",**

# Textile World

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## New Fibers

▶A new nylon that takes a deeper shade than standard nylon in the same dye bath has been developed by National Aniline Div., Allied Chemical & Dye Corp. A plant in Hopewell, Va., will be in commercial production by late summer.

The new fiber, called "deep-dye" nylon, will be available in filament yarn, staple, and tow, regular and high tenacities. As a sample application, the company has shown argyle socks that were dyed in one dyebath: segments were made of regular nylon, "deep-dye" nylon, and Dacron.

▶A new Lurex metallic yarn that is brilliant, strong, and light in weight has been announced by The Dobeckmun Co. Called Lurex-MM, the new yarn uses Mylar, the Du Pont polyester film, and is made with a patented process that gives high brilliance with a high yield per pound of yarn. Applications are in woven and knitted goods. The yarn can be Sanforized, piece-mercerized, and dyed safely with synthetics.

## New Fastness Tests

A new testing procedure has been tentatively established by AATCC for evaluating fabrics in terms of alternate washing and exposure to light.

In this test method, fabrics are exposed for 20 hrs. in the Fade-Ometer and then washed by AATCC Accelerated Washfastness Test 3A. Multiple cycles of the test were used in developmental work, according to P. J. Flynn, chairman of the AATCC Committee on Colorfastness to Washing.

Mr. Flynn also announced that Accelerated Washing Tests 2A, 3A, and 4A have now been approved as official tests by AATCC.

## News Briefs

▶Textile management in the Southeast will outstrip management in the Midwest and Northeast in industrial relations, according to Dannie J. Moffie, a psychologist from N. C. State College, who spoke to the Eastern Carolina Div., Southern Textile Assn. Management in the Northeast and Midwest is on the defensive, and progress is hard to make when you're on the defensive.

▶A survey of store buyers conducted by American Cyanamid Co. revealed that the No. 1 question asked by consumer buyers of soft goods is, "Will it fade?" "What is it made of?" was a close second and "How much does it cost?" was third. "Who made it?" was a poor fourth.

▶A semiannual publication called *Blend Novelties*, with 180 samples of wool blends, is available from Stellite American Corp., 60 E. 42nd St., New York, N. Y. The publication is edited by Karl Lederer, who also edits the Atlas of Blends put out by Werner Sidler Textilverlag Publishing Co., Zurich, Switzerland. Price: $29.50 per year.

▶Experience with Mylar-Metlon indicates that the metallic yarn can be used normally in the warp in weaving and that the yarn can be knotted.

▶*Saco-Lowell Repair Sales News*, a tabloid-size newspaper, has been started by Saco-Lowell Shops. The newspaper will appear at regular intervals, and any mill man interested in replacement parts and assemblies can get on the free mailing list by sending his name, mill, and position to Saco-Lowell.

▶The U. S. Dept. of Agriculture has issued a report on the futures markets for wool and wool tops conducted by the Wool Associates of the New York Cotton Exchange, Inc. The survey presents a full picture of the composition of the futures market. Single

**ADVERTISING STARTS AT HOME with Jantzen Knitting Mills. This tremendous sign at the Jantzen mill in Portland Ore., has a giant cut-out figure that can be changed with the season; and it also has changeable 17-in. plastic letters. Wagner Sign Service, Chicago, Ill., supplied the material.**

TEXTILE WORLD. Published monthly, with an additional issue in September, by McGraw-Hill Publishing Co., Inc. Executive, Advertising, and Subscription Offices: 330 W. 42nd Street, New York 36, N. Y. Editorial Office: 201 E. Coffee Street, Greenville, S. C. Publication Office: 99-129 North B'way, Albany 1, N. Y.; entered as second-class matter at the Post Office in Albany, N. Y. **For subscriptions,** write to: TEXTILE WORLD Subscription Service, 330 West 42nd Street, New York 36, N. Y. **State company and position. Subscriptions are solicited only from executives, engineers, and technicians in textile manufacturing or finishing plants.** Single copies 50¢. United States and Possessions and Canada, $3 for 1 yr.; $4 for 2 yrs.; and $5 for 3 yrs. Other Western Hemisphere and the Philippines, $10 for 1 yr.; $16 for 2 yrs.; and $20 for 3 yrs. Other Countries, $15 for 1 yr.; $25 for 2 yrs.; and $30 for 3 yrs. Printed in USA.

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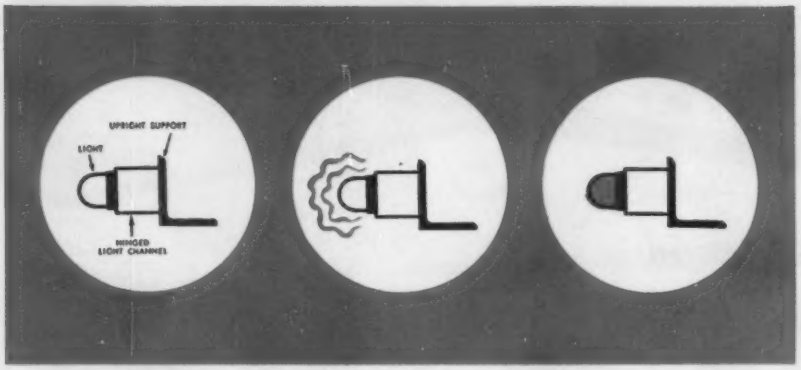
# NEW 3-WAY SIGNAL LIGHT

## FOR IMPROVED CONTROL BY CREELER AND WARPER



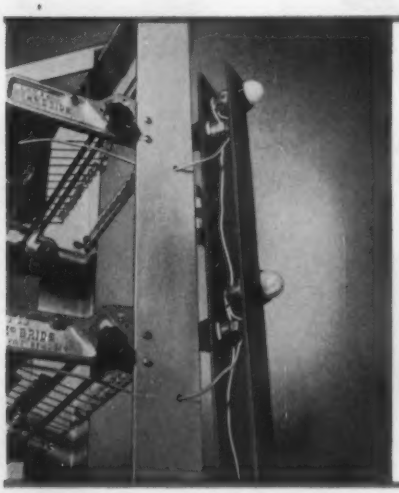

Each McBride SRM magazine creel is now available with 3-way signal lights that operate as follows:

1 Light out—creel operating satisfactorily.

2 Light blinking—Stop-Motion in drawing-in position.

3 Light on—indicates broken end.

If the operator neglects to release the locking bar from its drawing-in position, he is warned by blinking light that the Stop-Motion is inoperative. He will be reminded to drop the bar to operating position. Steady light still spots instantly the location of broken ends.



The light channel is of heavy gauge steel that protects the light socket, conceals and protects the wiring. It is hinged to permit ready access. Bulbs are quickly replaced without opening the channel.

Still visible to warper, creeler, or both, these light units are adaptable to your existing stop motions.

McBride Instant Stop is available in 3 models to cover virtually every warping need from 12 denier nylon on up to heaviest yarns.

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►Showtime, a promotional show to increase hosiery sales, was shown at the 51st annual meeting of the National Assn. of Hosiery Manufacturers at Atlantic City. The show, aimed at salesgirls, awarded prizes during the show's 22-city tour. The national stocking-changing champion, a Northwest Airlines hostess, Miss Barbara Lobstein, demonstrated her ability to change stockings in 21 secs.

►Shade cloth for tobacco will last at least three years if treated with lead chromate at the gray mill by a method developed by the Southern Utilization Research Branch of the USDA. The New Orleans laboratory recommends application by a two-bath method with lead acetate followed by sodium or potassium dichromate, or a dispersion of lead chromate in a resin binder that does not require curing.

►A new committee of AATCC will be appointed to collect, coordinate, and distribute information concerning end uses of textiles. Test methods to be set up include mild, medium, and harsh washing of work clothes and fabrics, with reference to both color and fabric. Tests will be aimed toward correlation with actual laundering performance.

## Mill News

►Johnson & Johnson and American Viscose Corp., in cooperation, have developed absorbent surgical dressings made from rayon staple. Both companies foresee other uses for rayon in products of this nature.

►Filmtex fabrics developed by Toscony Fabrics, Inc., are made by a new process of triple lamination using Krene plastic. A layer of colored or brightly printed film is protected by a layer of clear film. The process is good for any type of fabric.

►Amerotron Corp. has developed a new finish called Royalized. The silicone finish provides mothproofing, water repellency, spot and stain resistance, greater wrinkle resistance, and increased stability; and the material assumes an improved hand. Amerotron is applying the Royalized finish to an all-worsted fabric.

►A tufted carpet of 90% Tufton rayon and 10% nylon has been introduced by A & M Karagheusian. It

# No other drive does all these jobs like

# Link-Belt SILENT CHAIN

## YES, if you need a drive like any one of these six, you're money ahead with SILENT CHAIN

COMBINING the flexibility and quietness of a belt with the positive action and durability of a gear — Link-Belt Silent Chain offers unmatched advantages for a wide range of drives. Check these reasons why:

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- Slipless action assures a better product.
- Easy to install.
- Safe to employees — operates in oil-retaining casing.

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**SILVERSTREAK SILENT CHAIN DRIVES**

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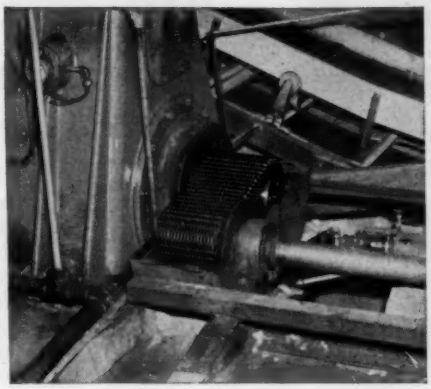
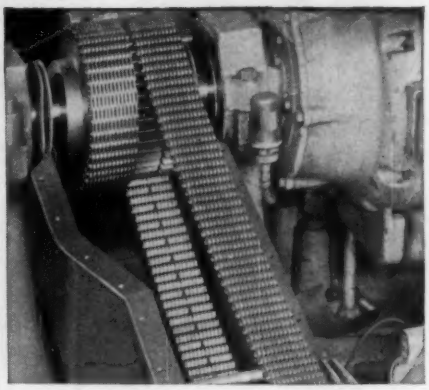
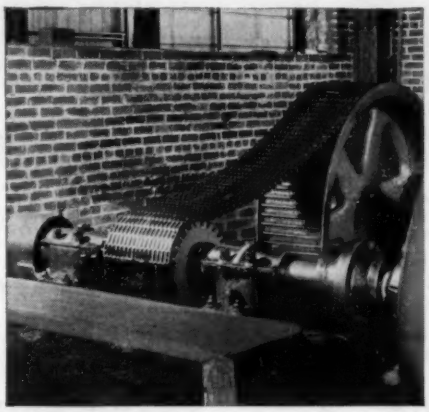


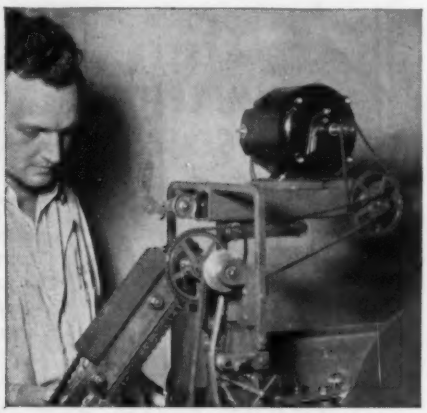
**1** **Production increased 33%** when speed of this peeler lathe was stepped up by installing two silent chain drives. Neither engine nor lathe had to be moved.



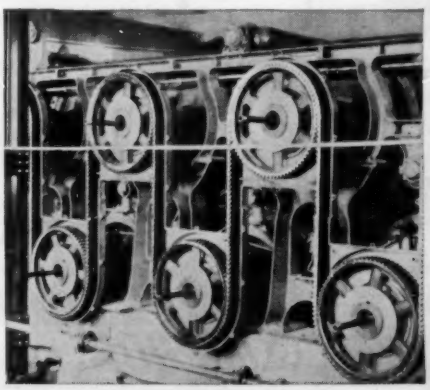
**2** **Constant, high speeds** were assured by equipping each of 48 automotive test stands with two Link-Belt Silverstreak Silent Chain Drives.



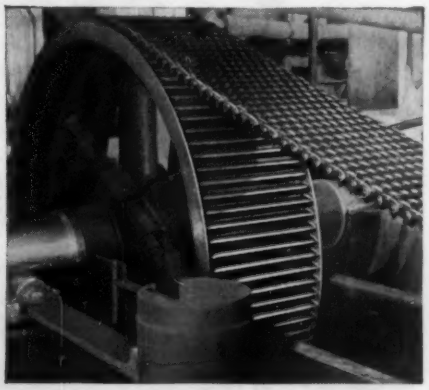
**3** **Long life under severe service**—This 250-hp Link-Belt Silent Chain Drive has operated line shaft in cold draw section of seamless tube company since 1916.



**4** **Fractional hp drives** are positive and dependable with Link-Belt Silent Chain. Above, two 3/16" pitch chains drive machine fabricating refrigerator parts.



**5** **Accurate timing** is guaranteed for this dryer by Link-Belt Duplex Silent Chain. All shafts travel at uniform angular velocity, permitting precise coordination of process.



**6** **Minimum maintenance**—This is one of 24 Link-Belt Silent Chain beater drives in a pulp mill. All have operated for many years with little attention.



For more information, write direct or use Reader-Service post card.

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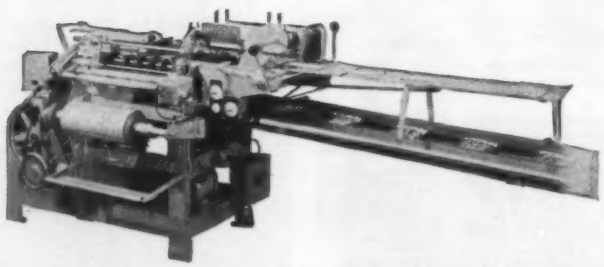
Hayssen's simple, rugged design, using fewer moving parts, keeps these machines working and saving through years of dependable, trouble-free service. Both the cost of the machine and the maintenance are so low you won't believe it.



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is treated with Resistsoil and has a high cut pile.

► Belding Corticelli Industries, Inc., a new subsidiary of Belding Heminway Co., has been awarded the first license by Du Pont to produce and market Nylon 8. The plastic material will bind pigments to textiles simultaneously with printing, and it can also be used as a bonding agent for nonwoven fabrics.

► The Borg Fabric Div., The George W. Borg Corp., Delavan, Wis., has been issued a patent that covers both the product and process of manufacture on its Borgana fabric.

► Burlington Industries has developed a new fabric using Pliolite latex as a backing. The coating strengthens the fabric for use as a covering material for the automotive and home-furnishing fields.

## Letters From Readers

**What's on your mind?**

**We welcome your comments. Whether you agree or disagree, with us or anybody else, we will be glad to have you air your views.**

**Unless you ask us not to, we will use your name and company connection when your letter is printed. If you prefer to have your opinions appear unsigned, we will respect your confidence by using only a set of initials.**

**Write to Editor, Round Table, TEXTILE WORLD, 330 W. 42nd St., New York 36, N. Y.**

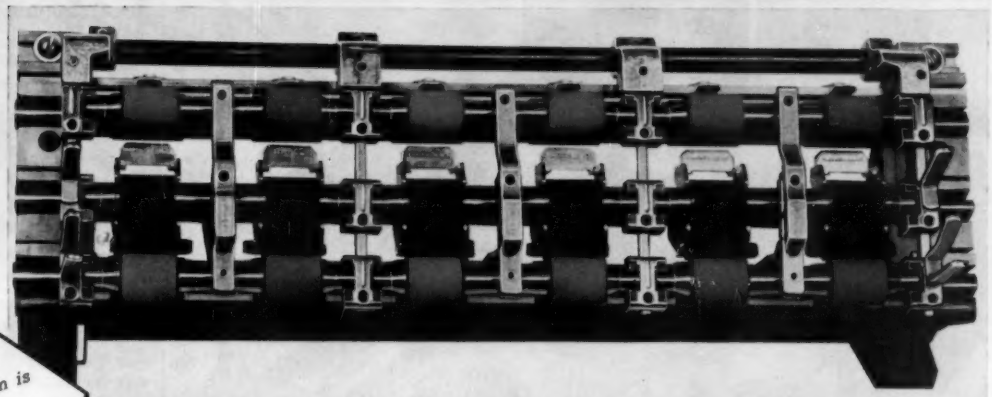
### YARN-SIZE CONTROL

Dear Editor:

The discussion on roving variation tolerances in February *Round Table* was interesting and enlightening. However, the practical carder's answer to this question of permissible varia-

# MODERNIZE SPINNING

## . . . THE SIMPLEST, MOST EFFECTIVE (AND LEAST EXPENSIVE) WAY



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## ROBERTS HIGH DRAFT

***Simplest*** All variables eliminated. No bearing gadgets, springs, pivots, or other elements to vary from spindle to spindle or month to month.

***Most Effective*** Concentrated tests prove higher break factors, lower ends down, better yarn evenness and greater consistency of performance.

***Least Expensive*** The simple combination of gadget-free elements provide a lower first cost and the lowest maintenance cost.

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- a true double apron system
- a simple, uncluttered drafting system with all variable elements omitted
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- positively set and maintained top roll settings
- proper and unchanging weight distribution
- elimination or reduction of top roll and bottom roll lubrication
- strengthening of the draft gearing by use of hardened gears and studs plus increase in head-end roll neck diameters.

### ★ ROBERTS HIGH DRAFT SPINNING MODERNIZATIONS

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- Roller Bearing Spindles
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In addition to supplying all or any part of the above modernization material, we can provide a complete "turnkey job" including all installation and erection. The experience gained in the installation of more than 1¾ million spindles of Roberts High Draft is available to you on the smallest Changeover or the most complete Modernization.

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THE YARN REWIND extends the usefulness of the Uniformity Analyzer or similar electronic evenness testing equipment. It permits winding a test sample on a paper tube automatically. Thus, you can retest the same length of yarn to check the equipment or obtain more accurate evenness data for comparisons between mills. This permits you to send both a chart record and the actual sample of yarn where an outside comparison is to be made.

Brush offers precision textile instruments . . . Uniformity Analyzer*, Tension Analyzer*, Imperfection Counter, Lapcheck and others . . . with trained servicemen and a complete stock of parts in the Brush Southeastern Office for your service.

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tion in roving would vary radically from those stated in the discussion.

The variation in the yarn number made from the roving would be of more concern to the carder. Yarn numbers, for various reasons, frequently do not vary in the same direction or proportion as the roving from which they are made.

Any variation in yarn number sufficient to require a gear change on roving or spinning frames would be considered a sad reflection on the card room's organization for maintaining uniform yarn sizes. The more-successful methods for yarn-size control start at the finisher drawing frame. In a properly established organization, gear changes beyond the drawing are very rarely needed for closely held yarn numbers.

A review over a long period of actual yarn-size reports in a well-managed mill shows no record of any gear changes needed on either roving or spinning frames to maintain yarn sizes. Beam weights and cloth yard weights were kept consistently uniform on the planned "slightly light side."

A follow-back to the pickers shows all laps are checked, and there is a regular system for checking yard weights. Correction to moisture regain is made on all picker-lap weights and drawing-sliver weights before any changes are made. Draft gears and crown gears (99-100-101 teeth) are both changed when required to hold drawing sliver to standard weight per yard.

A crown gear (1% change) may be made if the sliver is running heavy, but a 1%-light sliver is permitted to run without change to keep yarn and cloth weights on the slightly light side. It is found that correction of lap and drawing weights to moisture regain greatly reduces required gear changes.

Many precautions taken in operation contributed to making close control of yarn numbers possible without any necessary gear changes on roving or spinning frames. Some of these measures were:

Reworkable waste kept to a minimum and fed evenly throughout the whole day's operation; split laps prevented; care taken in piecing in new stock on cards and drawings; spoons and evener motions kept in good operating condition; dried-out stock prevented over week ends or other idle periods; and a large mix of carefully selected bales laid down in the opening room with equal quantities fed from each bale in the mix at each feeding cycle.

M. J. S.

Newburyport, Mass.

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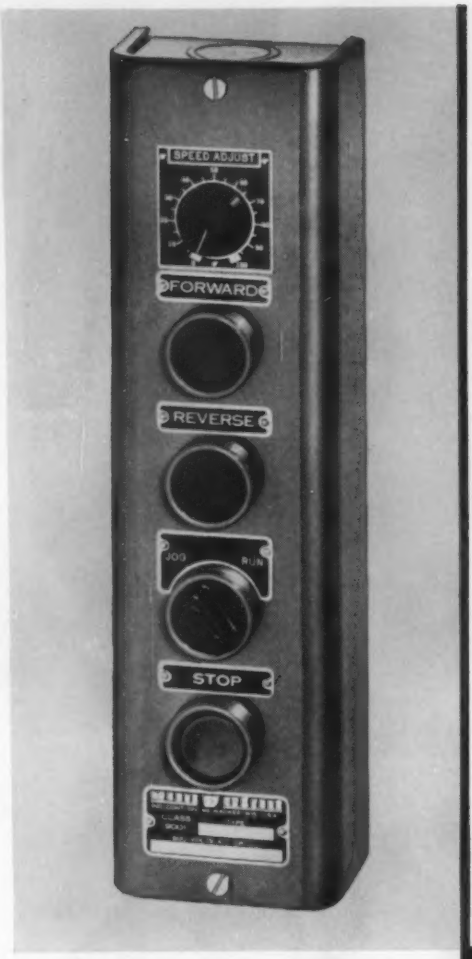


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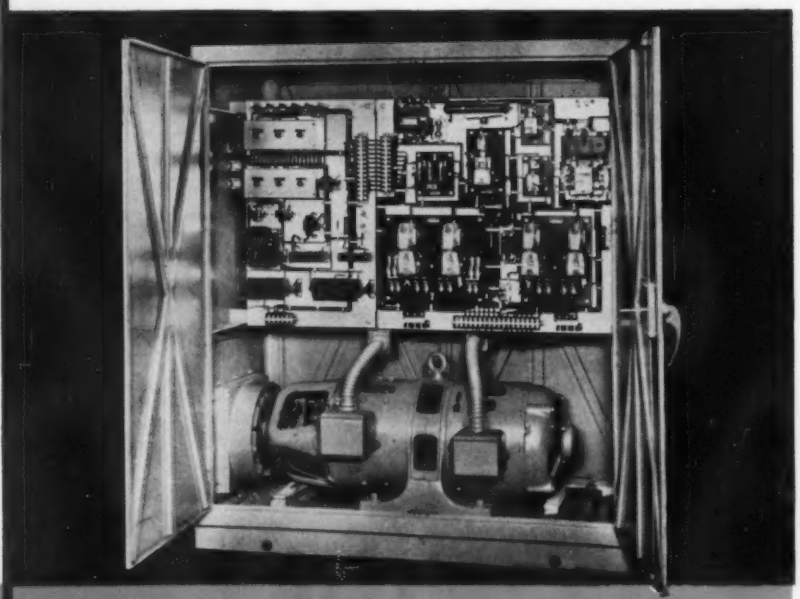
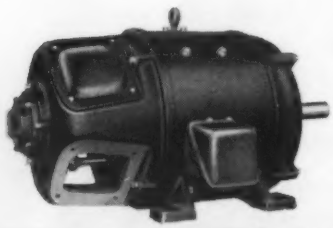
## Century SELECTIVE SPEED DRIVE

More accurately than the most experienced operator, Performance-Rated Century Selective Speed Drives *automatically* adjust motor speed to meet operating requirements. Speed changes are integrated with varying pressure, temperature, viscosity or size of the material being worked. You can also use Century Selective Speed Drives for starts, stops and jogs—forward or reverse—as required.



For full information and assistance on any motor drive application, AC or DC, call your nearest Century Sales Office . . . or write us direct.



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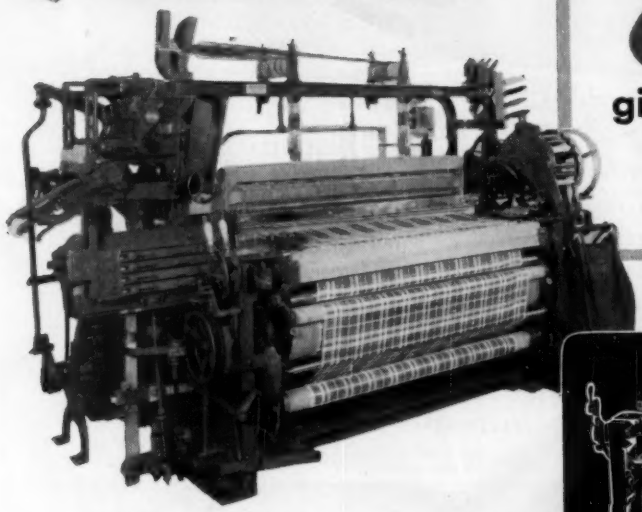
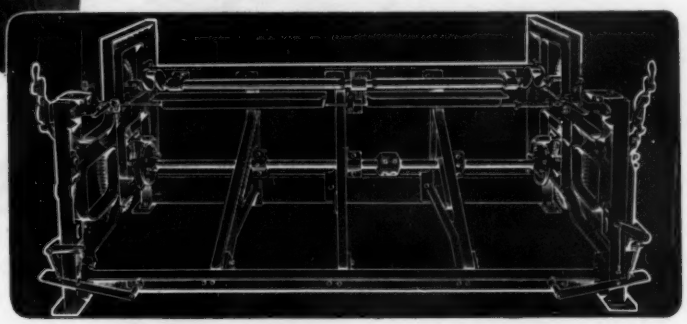
# M-P *Convertibility*

**gives Machine-gun Protection**
***against surprise attacks***
***by shifting fabric-fashions***





At the right is the basic loom-frame for the whole **M-P** line. Above is an **M-P** 20 harness ($1\frac{5}{32}$" gauge) 4 x 1 box Automatic Dobby Loom . . . one of the many types of looms which can be built on this same basic frame. Ask your C&K representative to explain the full scope of **M-P** Convertibility.

Would a sudden shift in fabric construction catch you with only a "single-shot" defense . . . like the old-fashioned squirrel rifle? Not if your weave room is adequately protected by C&K's modern, Multi-Purpose Looms. For then you have an unlimited number of "shots in the magazine" . . . with which to meet attacks from any flank.

Only these new **M-P** Looms have this advantage of *quick convertibility as required* . . . which means that you can have . . . on the same basic loom-frame . . . a wide choice of letoffs, takeups, shedding mechanisms, feelers . . . as well as lay constructions in an unmatched range from single shuttle, single color to 7 shuttles, 7 colors.

And this **M-P** Convertibility is the strongest defense your mill can have. See C&K . . . and see exactly how and why these new **M-P** Looms mean More Profit in *any* weave room.

This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Fabrics . . . which are **WOVEN** Fabrics.

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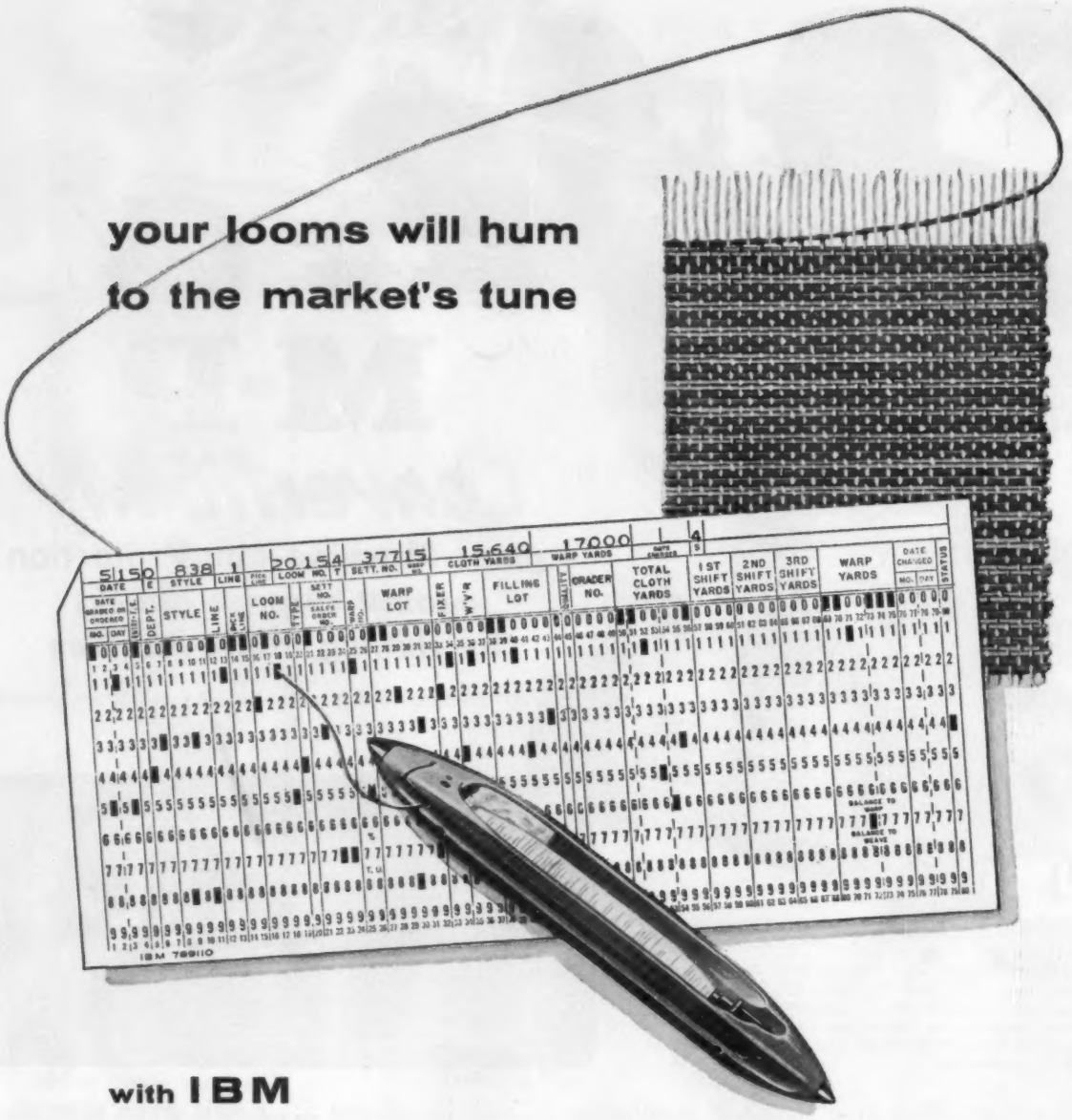


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Stop overrun on slow-moving items! Schedule fast-moving styles promptly! Save "down time" on looms! Gain greater competitive advantages with accurate cost analyses in time for management action!

With IBM punched card production control, you get up-to-date reports on warp inventory and production progress of every loom . . . every fabric style. For simple, yet complete control, only *one* master warp card is prepared. It contains all descriptive data about the style being woven, loom number, warp and cloth yardage, date beam was mounted on loom, production rate, capacity, department, and weaver and fixer sett numbers.

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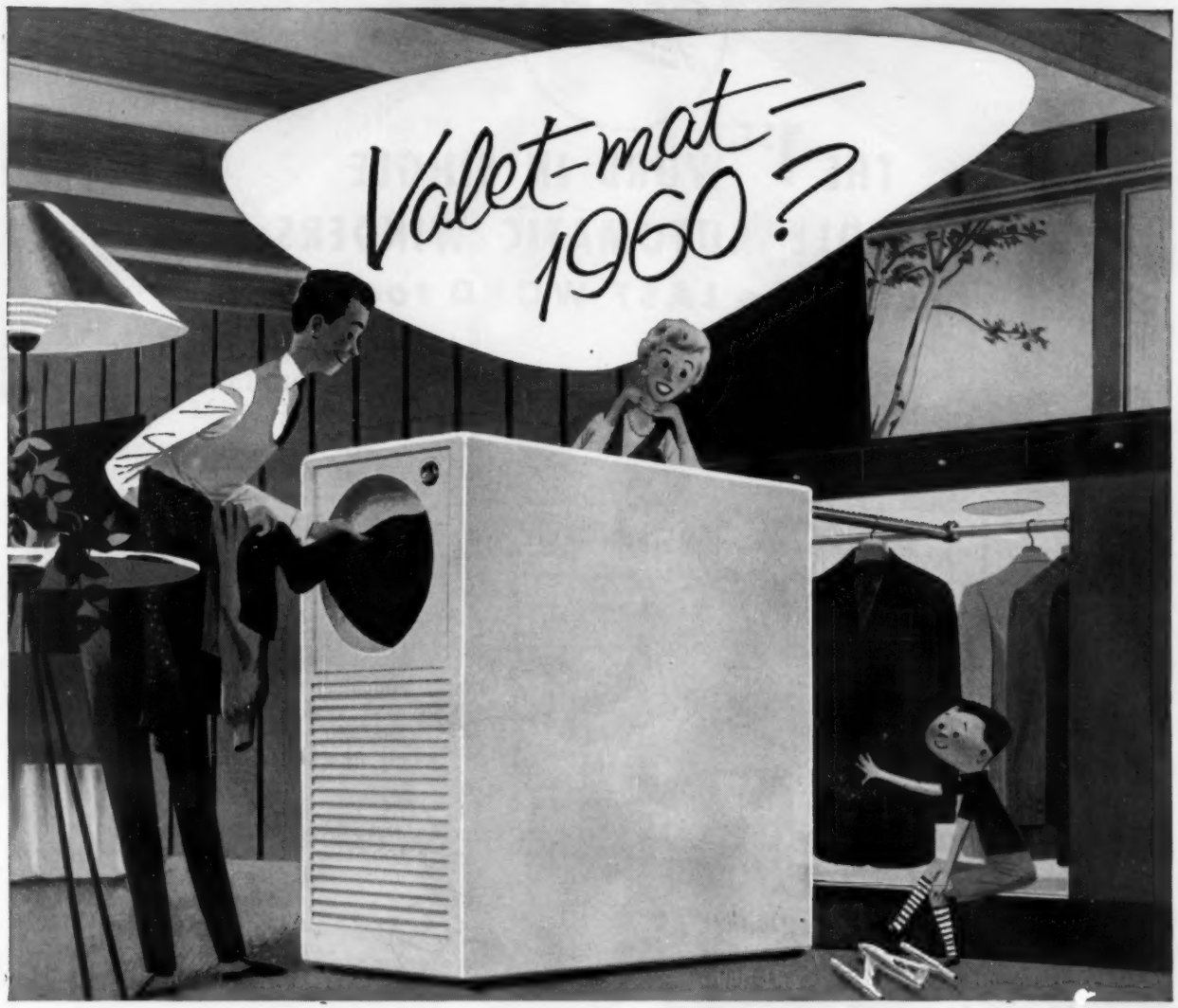

Versatile, easy-to-operate machines that take the backache out of "ironing day" are a housewife's dream come true. And manufacturer after manufacturer has called on New Departure for its ball bearings.

It could well be that in less than a decade a compact new appliance for the home will clean and press a suit, coat or dress in seconds.

Of course, such a machine is yet to be developed. But one solid fact: when the "Valet-mat" *does* arrive, it will probably be New Departure ball bearings that keep it operating smoothly and efficiently.

Today, practically any type of home-service product you can name is New Departure-equipped. So, when your thoughts turn to new departures of tomorrow . . . think of New Departure—the company that makes the great forward strides in ball bearing design and manufacturing.

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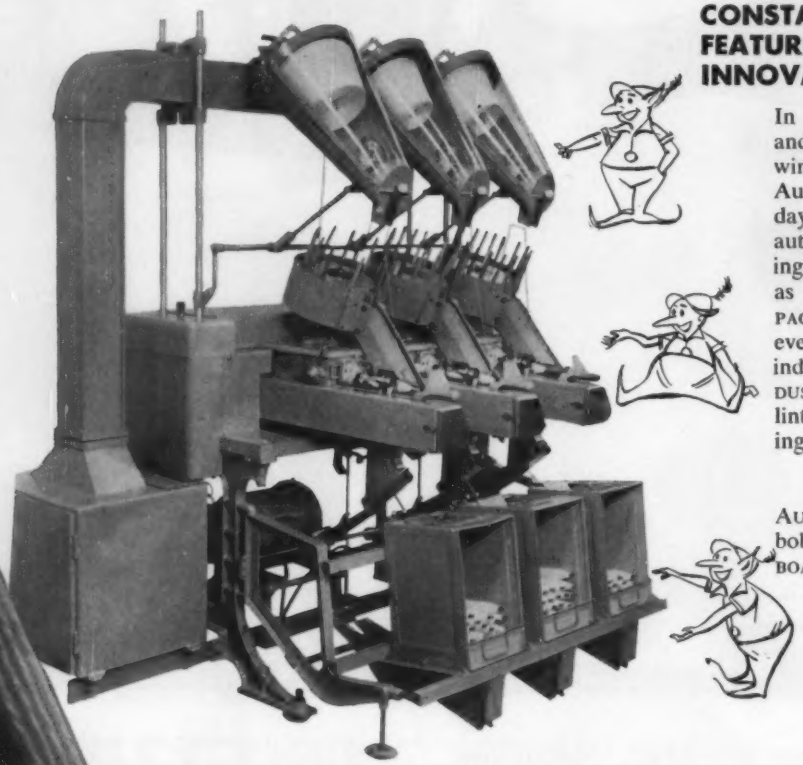

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*That's why the world's first single spindle automatic winder, introduced by Schweiter in 1938, is still the industry's most modern, most automatic winder available today!*

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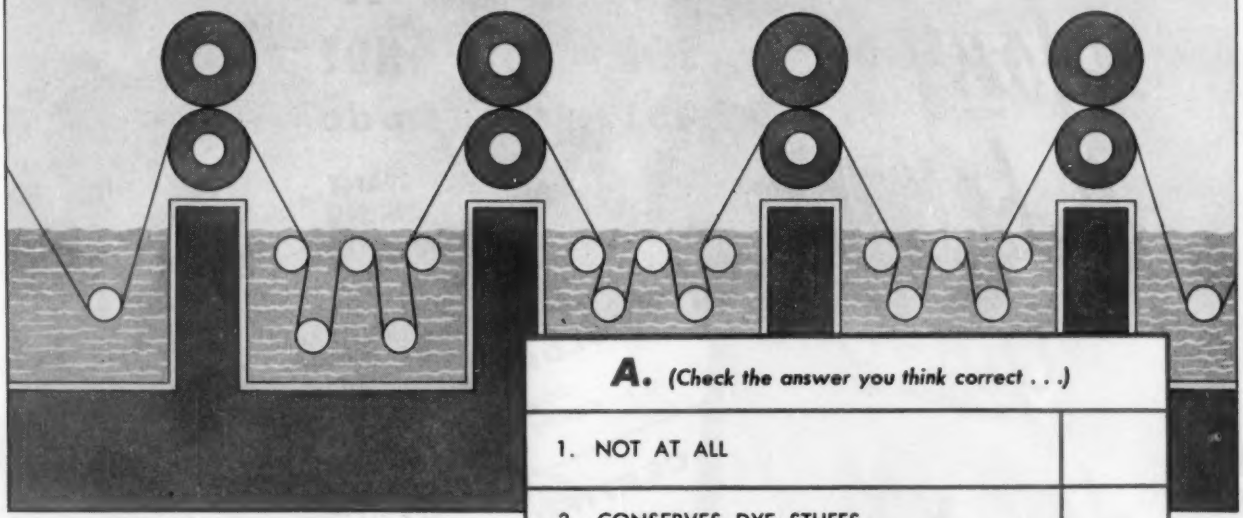
# STOWE-WOODWARD Maintenance Tips

*for better finishing at lower cost*

**Q.** HOW DOES RUBBER ROLL CARE AFFECT CHEMICAL COSTS?



**A.** *(Check the answer you think correct . . .)*

| | |
|---|---|
| 1. NOT AT ALL | |
| 2. CONSERVES DYE STUFFS | |
| 3. ELIMINATES EXCESS NEUTRALIZING OPERATIONS | |

***You'll find the correct answer in these Maintenance Tips***

If you checked answer #1 you may be overlooking one of the most important contributions that fine rubber covered rolls can make toward reducing costs. Actually answers #2 and #3 are both correct.

In modern high speed range finishing operations, where the cloth passes from dyestuff into washers or chemical baths, the carry over of dye, or chemicals into the next succeeding bath is determined by the effectiveness of the squeeze rolls. It goes without saying that the greater the volume of excess fluid removed by the rolls, the less the carry over and the less the contamination of the next bath. In many mills it is necessary to add chemicals to the water to neutralize the effects of carry over; and savings in the amount of these chemicals, necessary to purify the bath, can also be achieved through the use of efficient squeeze rolls.

Your Stowe-Woodward sales engineer will be glad to help with any problem regarding the care, selection or use of rubber covered rolls.

*"RUBBER ROLLS with a REPUTATION"*

S-W INC.

**STOWE-WOODWARD, Inc.**

*Craftsmen in rubber rolls*

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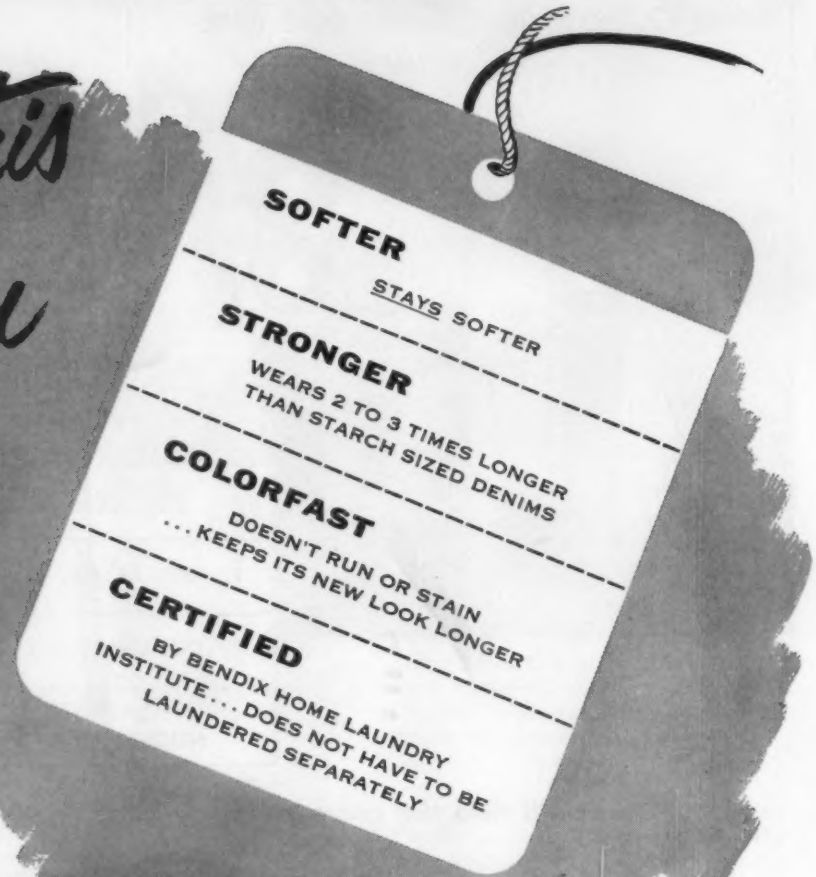
*News about*

# B. F. Goodrich Chemical *raw materials*

*Hang this label on your denims and*


SOFTER
STAYS SOFTER
STRONGER
WEARS 2 TO 3 TIMES LONGER THAN STARCH SIZED DENIMS
COLORFAST
DOESN'T RUN OR STAIN ... KEEPS ITS NEW LOOK LONGER
CERTIFIED
BY BENDIX HOME LAUNDRY INSTITUTE ... DOES NOT HAVE TO BE LAUNDERED SEPARATELY

## *sell them faster!*

DENIMS sized with Hycar latex are everything the label says and more. Most important, they command a premium price and they move quickly off the counter into the consumer's hands.

Hycar latex size not only does wonders for denims, but also upgrades other textiles. For complete information, please write Dept. CM-3, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

**B. F. Goodrich Chemical Company**
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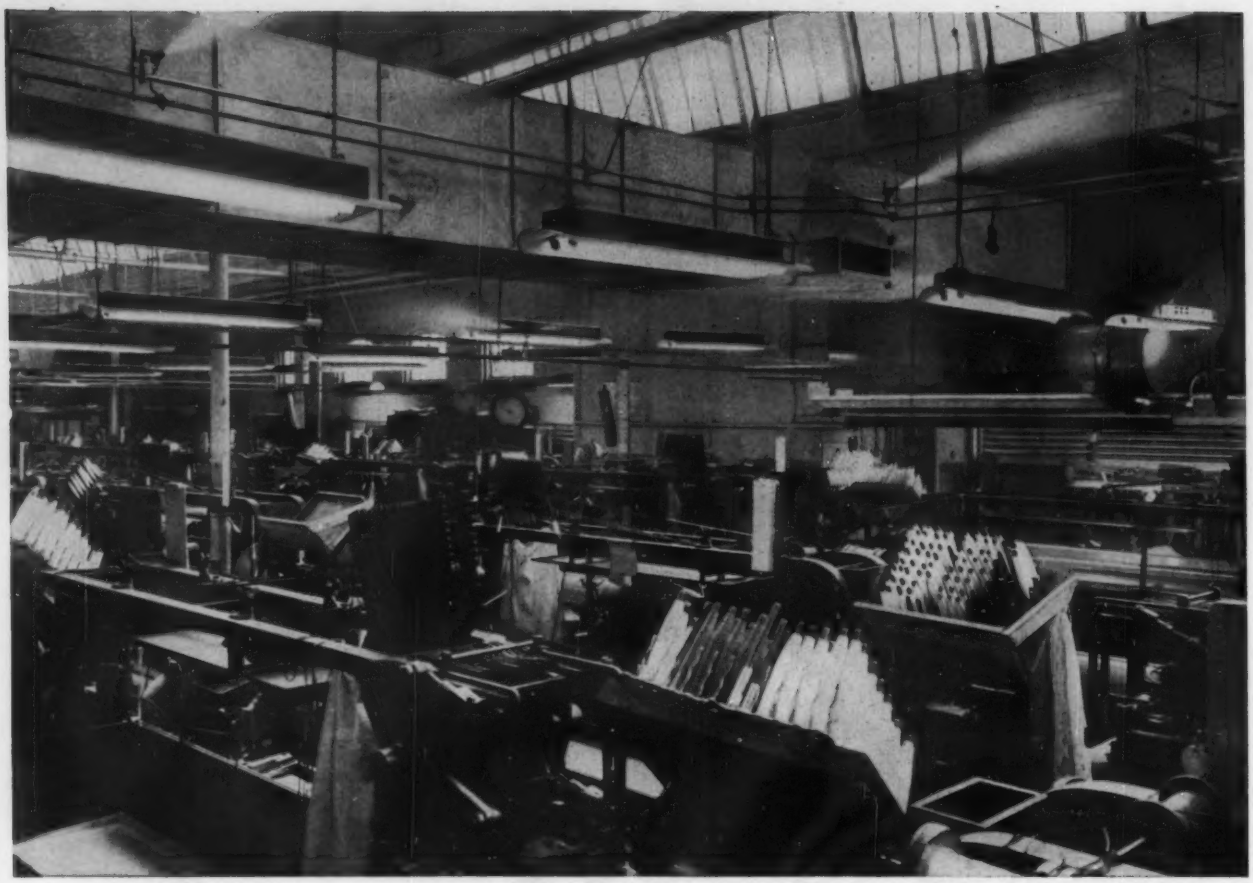


Unit Dry-Duct System installed at Rhode Island Fabrics Company, Pawtucket, Rhode Island

# PROFIT'S IN THE AIR

## . . . with AMCO Unit Dry-Duct Air Conditioning

In a textile mill, reliable, efficient air conditioning can be a big factor in the profit picture. When floor space is at a premium, a central station installation may be out of the question. Faced with this problem, many mills have found a profitable answer in the Amco Unit Dry-Duct System.

This system consists of a self-contained air conditioning unit, distribution ducts and room atomizers. The air conditioning unit itself is compact and can be installed overhead, out of the way, where it will not take up valuable mill floor space.

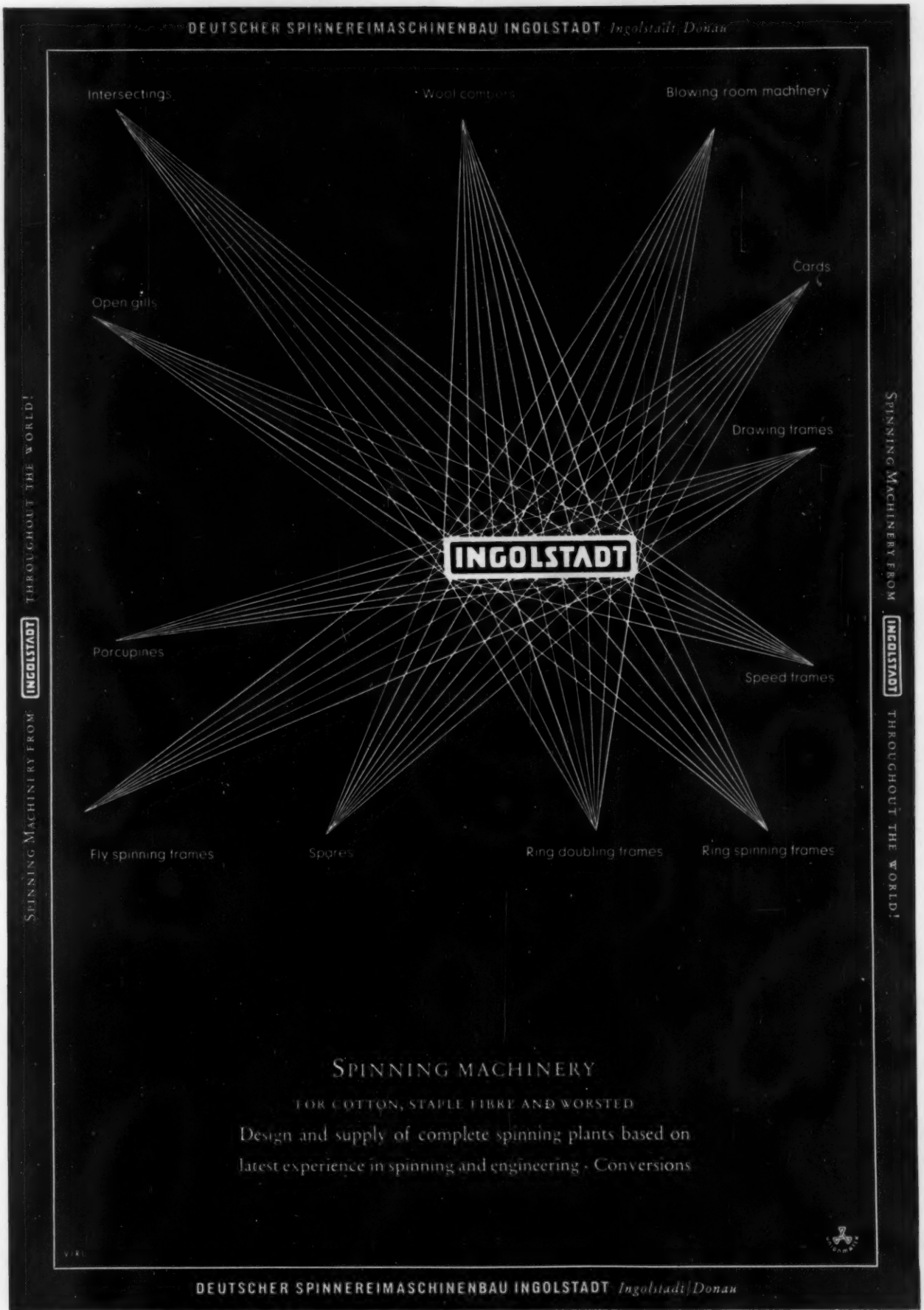
Automatically operated louvers supply fresh air and recirculated air, in proper proportions, to the air conditioning unit. The air is filtered if desired, and then heated as required. This "dry" air is distributed to the working area through ducts. Humidification and evaporative cooling are provided by atomizers located in front of each air duct. Automatic controls hold relative humidity and temperature at the desired levels. Spent air and heat are exhausted automatically through vent louvers.

The Unit Dry-Duct System is only one of the many types of air-conditioning systems manufactured, engineered, and installed by Amco. The facts about textile mill air conditioning — the advantages and disadvantages of each type of system — are fully covered in Amco's booklet "Air Conditioning for the Textile Industry." Write today for your own copy of this Amco booklet.

AMCO

**AIR CONDITIONING SYSTEMS since 1888**

AMERICAN MOISTENING COMPANY, PROVIDENCE, R. I. • ATLANTA • BOSTON • CAMDEN • CHARLOTTE • AFFILIATED WITH GRINNELL COMPANY, INC



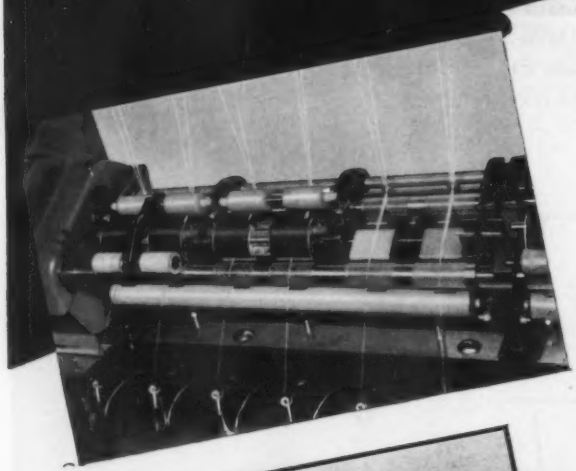

INTERNATIONAL TEXTILE FAIR, BRUSSELS.—JUNE 25th—JULY 10th, 1955. BOOTH UNIONMATEX—HALL 5

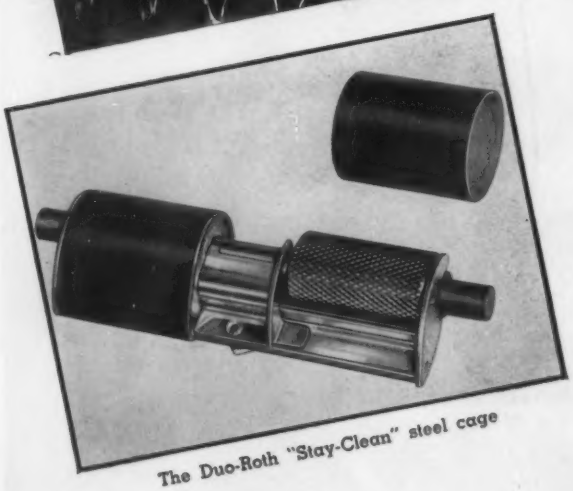
IT'S NEW

IT'S EFFICIENT

IT'S CLEAN

# SACO-LOWELL "STAY-CLEAN"* DUO-ROTH DRAFTING





The Duo-Roth "Stay-Clean" steel cage

**FRONT ROLL**
A new self-aligning, center suspended, Saco-Lowell anti-friction front roll held in a Dixon saddle guide, which eliminates the front cap bars, assures perfect alignment at all times of the front top roll with the bottom steel roll. The advantage of this perfect alignment is better drafting and prolonged life of the top roll covering as has been so successfully demonstrated on the over-1000 Gwaltney frames now in operation.

**MIDDLE ROLL**
Mill tested Duo-Roth assembly with anti-friction middle roll. Has sealed-in lubricant which eliminates danger of spoiling top or bottom apron with oil and friction drag. The rugged, steel cage is a precision product. Simple means are provided to accurately adjust the clearance between the aprons for the optimum in fibre control.

**BACK ROLL**
Solid back roll with Nylon gudgeons and a saddle with Rulon bearings. Roll never needs oiling — needs but little cleaning.

**RANGE OF DRAFTS**
The ability of the "Duo-Roth" Drafting System to give increased drafts ranging from 60 to 100% over current standards and at the same time produce stronger and more uniform yarns has been demonstrated on thousands of spindles in quality-minded mills throughout the world.

**AVAILABILITY**
The Duo-Roth "Stay-Clean" drafting system can be supplied with new spinning and as a changeover for frames now equipped with Roth spinning.

***For further information or a demonstration, contact the nearest Saco-Lowell Sales Office.***

*Trademark

SACO-LOWELL
60 BATTERYMARCH STREET, BOSTON 10, MASS.
Shops at BIDDEFORD and SACO, MAINE, and SANFORD, N. C.
SALES OFFICES: CHARLOTTE • GREENSBORO • GREENVILLE • ATLANTA

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*Simplifies purchasing*

*Consolidates orders*

*Cuts time and labor costs*

● With Brainard Strapping Service you get the right product for every application from one responsible source. For only Brainard supplies both steel strapping *and* strapping tape . . . offers unbiased recommendations on the method best for you!

This means that you now can simplify purchasing . . . consolidate orders . . . reduce time and labor costs all along the line!

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1705 E. Adams Street
Phone: 4-5638

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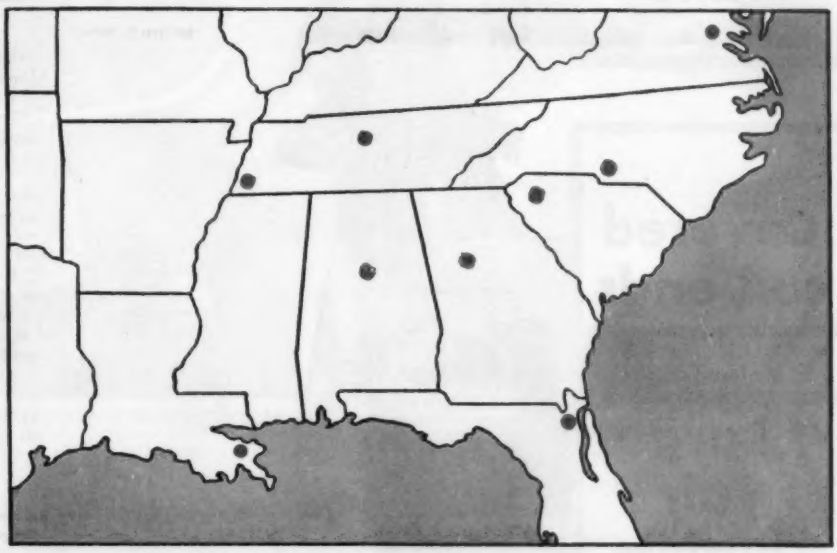

*For complete information write Brainard Steel Division, Dept. T-6, Griswold Street, Warren, Ohio.*

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**COMPLETE STRAPPING SYSTEMS & MATERIALS • WELDED STEEL TUBING • ELECTRO-GALVANIZED STEEL • SCAFFOLDING • PALLET RACKS • BUILDING PRODUCTS**

*Offices in principal cities throughout the U. S.*



For more information, write direct or use Reader-Service post card.

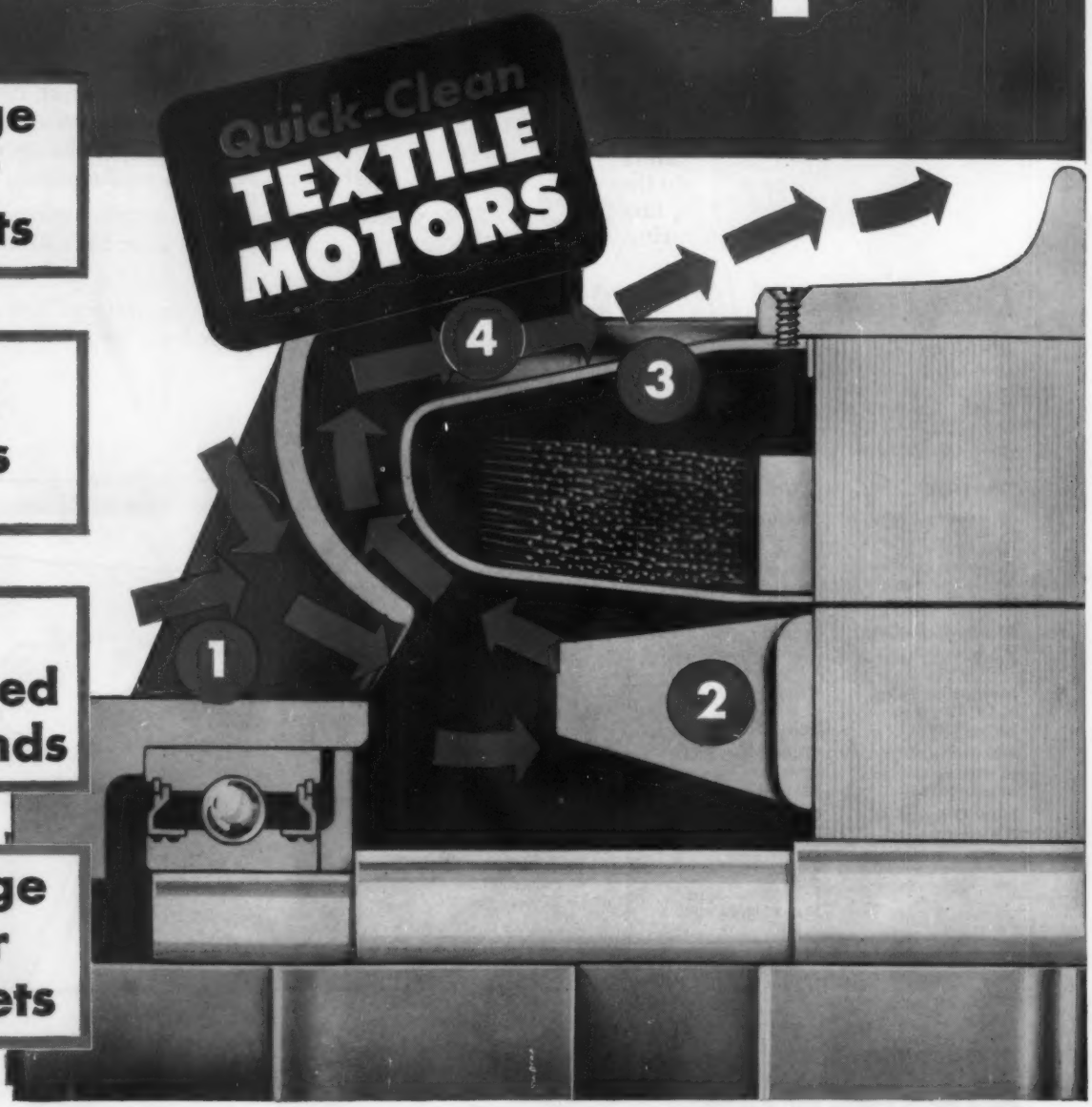
# MOTORS that Dirt and Lint Can't Stop

1. Large air inlets

2. Big fans

3. Covered coil ends

4. Large air outlets




**GET COMPLETE INFORMATION:** Call your nearby Allis-Chalmers District Office or distributor, or write Allis-Chalmers, Milwaukee 1, Wisconsin.

*Texrope* and *Quick-Clean* are Allis-Chalmers trademarks.

**ALLIS-**



For more information, write direct or use Reader-Service post card.

## Spinning

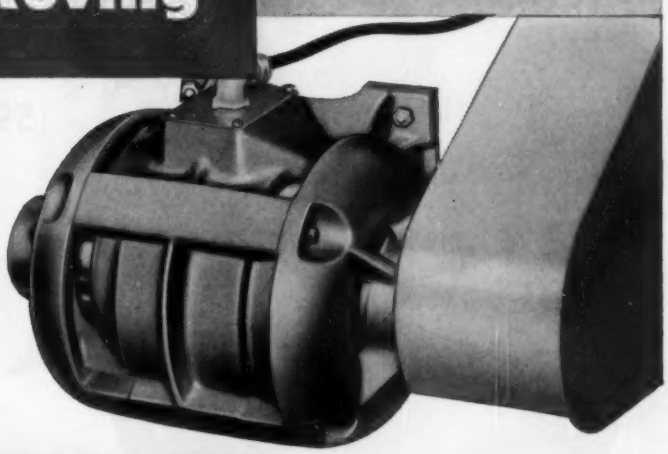
Two important features make this *Quick-Clean* motor your best buy for spinning frame duty. First, wide open design solves problems of clogging and overheating created by lint-laden atmospheres. Powerful fans sweep lint and dirt through wide open air passages and right out of the motor. Air passages are large, smooth, unobstructed.

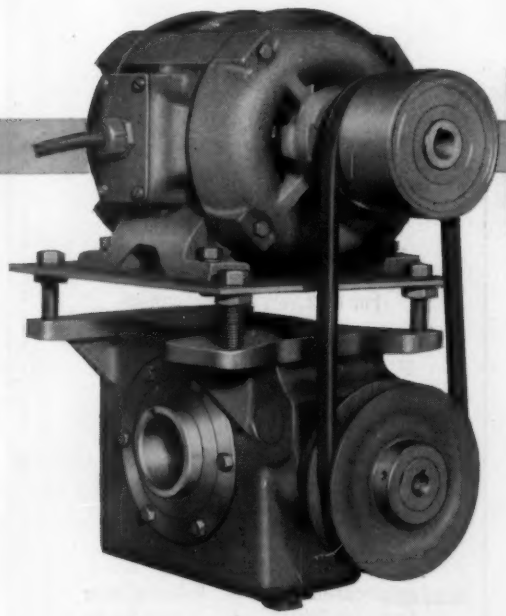
Second, pre-lubricated and sealed double-width, single-row ball bearings are used. They will operate for long periods without attention — yet can be cleaned and repacked when motor is dismantled. Will not drip grease that can damage product.

## Roving

The same wide open, self-cleaning *Quick-Clean* design is used in this motor for roving frame applications. Special slow, smooth acceleration characteristics are built into the motor to provide slow starts, fine jogging — produce uniform roving.

No special resistors, no acceleration-reducing clutches, no special motor control are required with this motor. Acceleration is almost three times as long as a standard motor. Special conduit box connections permit relatively high torque when required, such as during "break-in" period of the frame.





## Carding

Non-clogging, *Quick-Clean* motor is combined with a *Texrope* drive, mercury clutch and a highly efficient gear reducer to make a compact, reasonably priced power package for cards. These individual card drives solve problems of lighting, cleanliness and safety created by overhead shafting and belting. In addition, duct arrangements for air conditioning are simplified.

Unit requires practically same floor space as tight-and-loose pulley drive. It is mounted on card shaft — independent of card arch — with torque arm to keep gear box from rotating.

A-4600

# CHALMERS

A-C ALLIS-CHALMERS

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# U. F. CONCENTRATE – 85

## (59% Formaldehyde – 26% Urea)

If your process needs high concentrations of both formaldehyde and urea use Nitrogen Division's U.F. Concentrate–85 – the highest available concentration of liquid formaldehyde–59% Formaldehyde, 26% Urea. Active content is 85% by weight.

***There are many advantages:***

- **Increase production in shorter time with existing equipment.**
- **Reduce processing time for dehydration.**
- **Charge larger batches to kettles.**
- **Pump U.F. Concentrate–85 using your regular formaldehyde facilities.**
- **Save storage, handling and shipping costs.**

**For full information, free folder and samples of U.F.–85, write today!**

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44% Low Methanol
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Nitrogen Tetroxide • U.F. Concentrate–85
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Nitrogen Solutions

*"Okay...how do you pronounce it?"*

Lots of people
stumble over our name.

But just so you'll know,
HINDE rhymes with "find"...
and DAUCH is pronounced "dowk."
And any way you say it,
it stands for quality in
corrugated boxes.

**HINDE & DAUCH**

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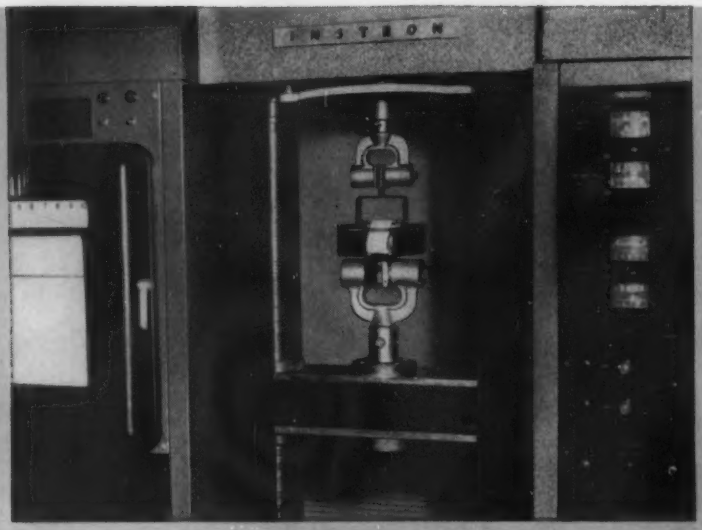
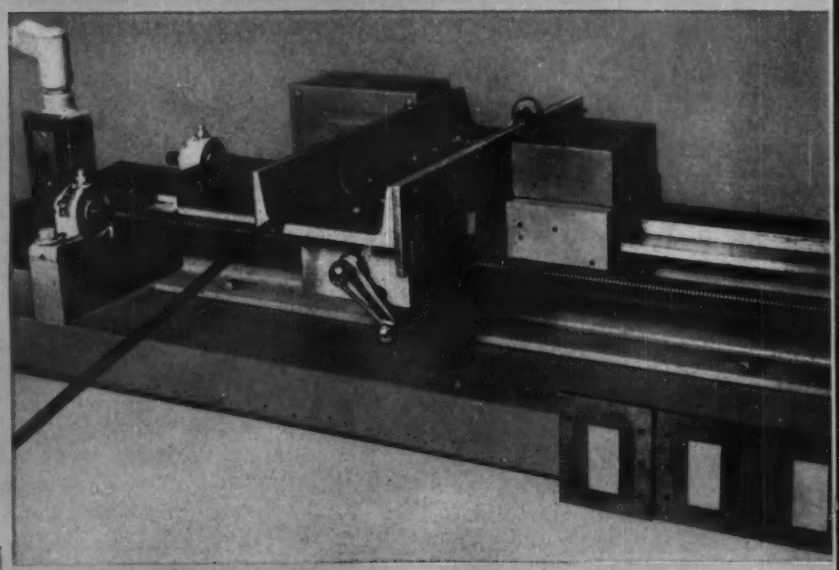
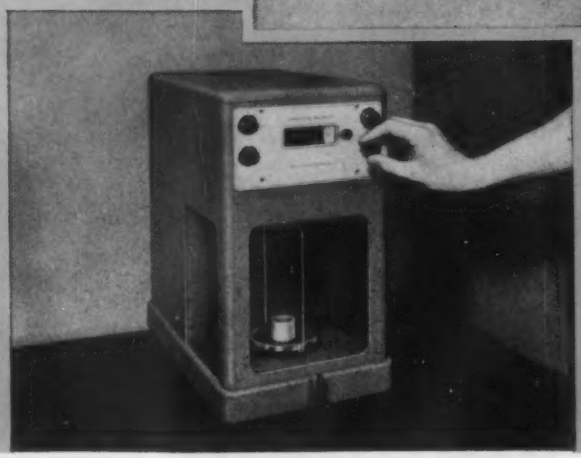



**Optimum flexibility** is built into the rubber compounds used in Armstrong Accotex Aprons. This sensitive test machine measures the force required to flex an apron and records the data on the unit at left. From this information, the relative flexibility of the sample can be calculated.

# These quality controls

**Controlled surface friction** is necessary for good drafting. On this machine, sample sections of apron compounds are mounted under weighted block at center of picture. The block is then moved at fixed speed across a polished steel bar. The amount of "push" required to move the block is registered by strain gauges and automatically recorded on a separate test unit.





**High abrasion resistance** is essential in aprons today because higher weightings increase the chance of wear on inside apron surfaces. One way to measure abrasion resistance is to weigh aprons before and after accelerated wear tests. Here, an Accotex Apron is weighed on a balance that is sensitive to weights as low as 1/10,000th of a gram.

## give you Accotex Aprons that

# *spin clean, uniform yarn on long-draft equipment*

Reports from mills with long-draft, double-apron frames show that Armstrong NO-7075 Accotex® Aprons give superior spinning action—month after month.

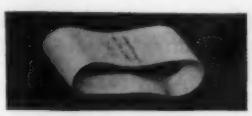
The big reason for this, of course, is the way in which NO-7075 Aprons are made. Two different synthetic rubber compounds are used in this apron. Each is designed to do a special job—and both compounds are tested and retested to conform to the high Armstrong standards of production. (Some of the steps that guard NO-7075 quality are shown at the left.)

As a result, this apron's *black outer surface* is designed to drive the top apron without slipping and maintain good drafting tension on the roving. The *white inner surface* is compounded to grip the drive roll firmly, yet it never jams at the pin.

If you're planning a switch to long-draft equipment—or if you're spinning on it now—NO-7075 Accotex Aprons can make an important difference in yarn quality. Call your Armstrong representative for a test side of these aprons or write us direct.

For the free booklet, "Armstrong Textile Roll Coverings and Mill Supplies," write Armstrong Cork Company, Industrial Div., 6406 Dauphin St., Lancaster, Pa.

**FOR SINGLE-APRON SPINNING,** use the super-flexible Armstrong NO-750 Apron. This long-wearing apron is specially made to give the smooth drafting action needed for strong, uniform yarn. NO-750's smooth surface lasts for years without cracking or scuffing.

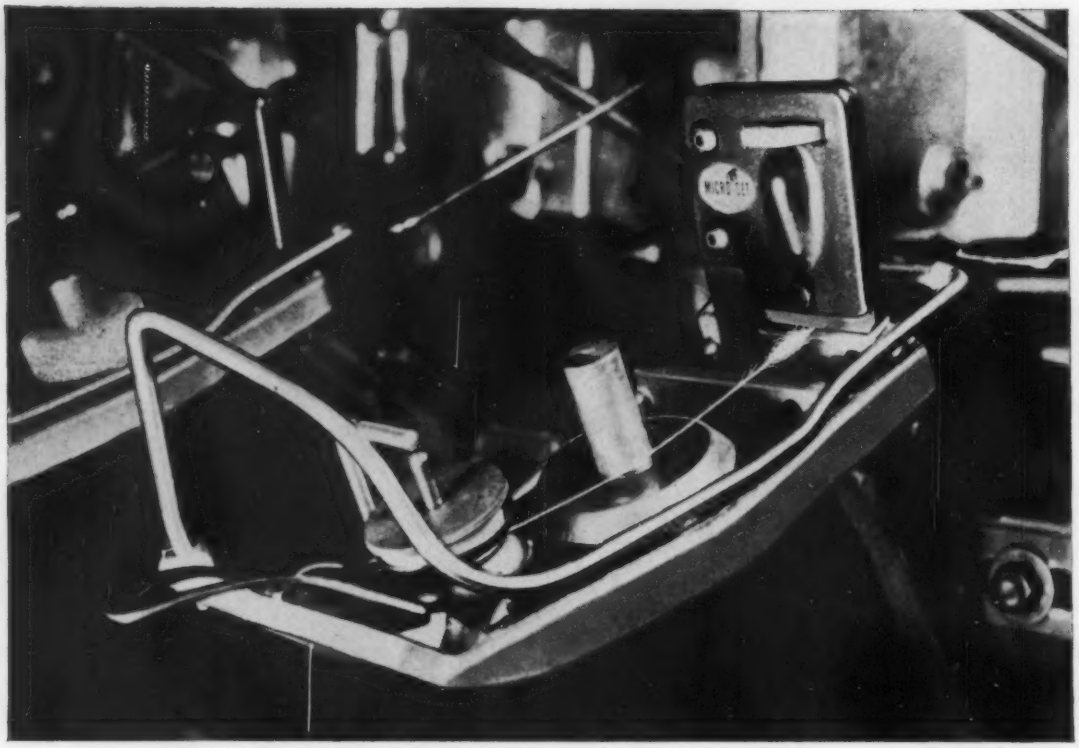


**Armstrong** ACCOTEX APRONS

*. . . used wherever performance counts*



For more information, write direct or use Reader-Service post card.



# Here's a Roto-Coner® feature that assures highest quality yarn

***The micro-set slub catcher adds positive, precision-inspection***

A typical development of Leesona engineering the Micro-Set Slub Catcher on the Roto-Coner Winder clears soft torpedo slubs, hard slubs, piecings and double spinnings from natural or synthetic fibers.

Its extreme sensitivity allows effective slubbing with a wider opening. A sensitive, toggle-action blade swings against the anvil, effectively arresting the slub. This blade can be adjusted to extremely precise settings — up to 80 thousandths of an inch, to handle yarns ranging from fine to coarse counts.

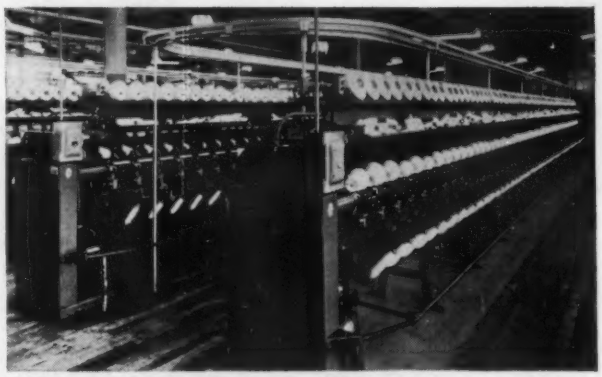
**Other Roto-Coner Advantages**

Operator's duties have been reduced to the simplest, easiest motions. And the quick-doffing arbors save additional time in donning and doffing dye packages.

The smooth action of the famous Rotary Traverse — plus the Roto-Coner's streamlined design — allows little lint to form or collect.

Reciprocating parts are completely eliminated — no traverse cams to grease, adjust or replace. Users report annual costs for repair parts averaging as low as ¼ of 1% of the original investment.

Roto-Coner Winders wind cotton, wool, worsted, spun synthetics or blends. It will pay you to get further facts on how these quiet, easy-to-operate, trouble-free machines can improve your product quality and cut your production time and costs. Write for illustrated bulletin.



**One Of Many Roto-Coner Installations.** Units can be built in various lengths to meet production requirements.

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*Winding and Twisting Machinery for Natural and Synthetic Yarns*

**How Correct Lubrication cured them—saved $1,700 a month!**

They were like giant spiders spinning endless threads. Only, these were *man-made* "spiders"... their sinews were gears, shafts and bearings—their lifeblood was oil. But this lifeblood kept vanishing, leaving these spinners constantly hungry for oil.

There were 140 of these spinning units in a large rayon mill. Each unit contained many "Godet" boxes—reservoirs of oil to lubricate vital moving parts. Every day, each unit was short two gallons of oil—a total of 280 gallons.

A Socony Mobil man, making a lubrication analysis of this plant, asked one of his staff engineers to work with plant personnel on this problem. They found the cause... rotation of a shaft protruding from each Godet box caused oil to travel along the shaft out of the box and drip off.

To remedy this, they cut a spiral groove in the shaft so as to force the oil back into the box. They also changed to a heavier grade of oil. As a result, oil loss was drastically cut, saving the company $1,700 a month!

Engineering service like this comes with our program of Correct Lubrication. Why not call us and get such a program started in *your* plant?

**SOCONY MOBIL** *Correct Lubrication*

**FIRST STEP IN CUTTING COSTS**

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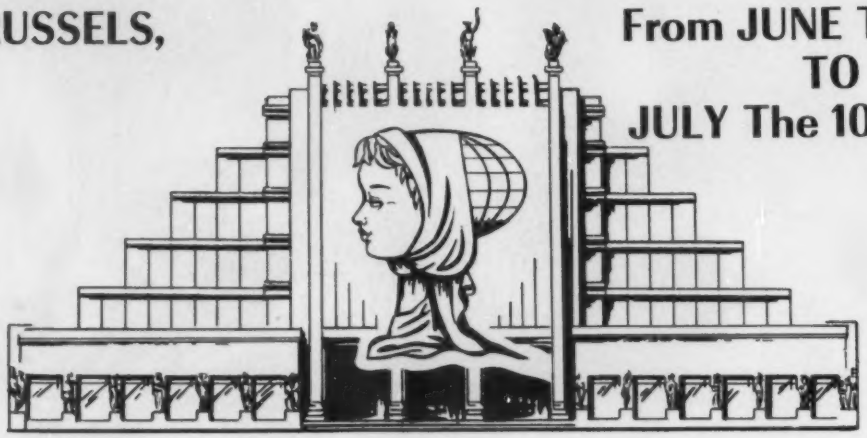
AT BRUSSELS,

From JUNE The 25th
TO
JULY The 10th, 1955



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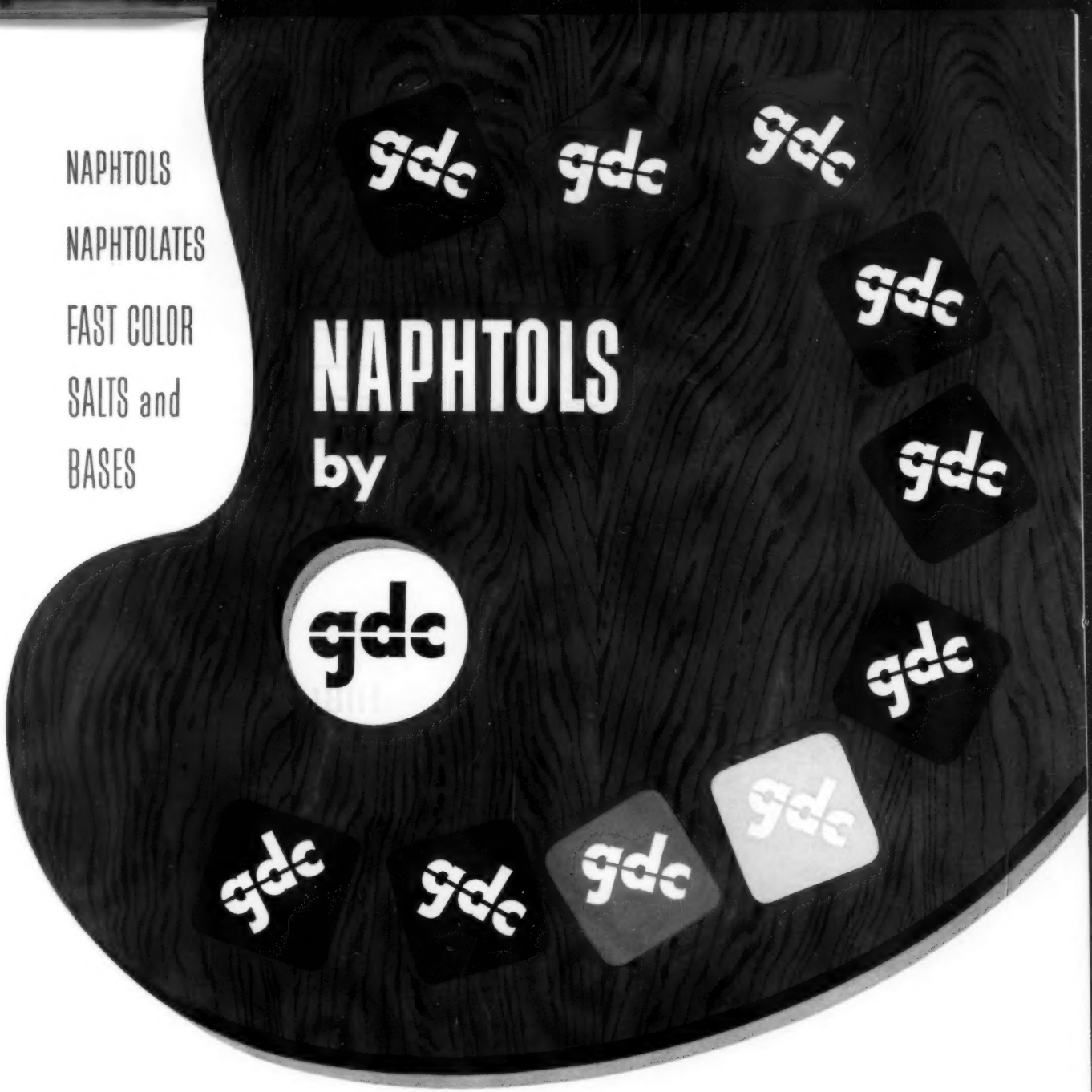
NAPHTOLS

NAPHTOLATES

FAST COLOR SALTS and BASES

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Whatever the volume of the dyer or printer—whatever his method—GDC offers the broadest range and the right combination of products to create the whole spectrum of fashion-right shades. These range from bright yellows and reds to rich deep wines, navies and browns. They are dependable allies in meeting today's ever-increasing demand for fast colors.

Years of manufacturing experience and extensive technical resources are continually at work for you—breeding new refinements into our products—creating new benefits to you. The Naphtols, Fast Color Salts and Bases are *now non-dusting* powders. Most of them offer greater ease of solubility and better stability in dyeing and printing, as well as in storage. These are all plus factors. For those who prefer to work with a prepared naphtol solution, we offer liquid Naphtolates.

*Supporting every product we offer are the facilities*—available to you—of our Technical Service Laboratories. We invite the opportunity to discuss the relative values of Naphtols and Naphtolates, Fast Color Salts and Bases—in terms of your particular requirements.

*From Research to Reality*

**GENERAL DYESTUFF COMPANY**

A SALES DIVISION OF GENERAL ANILINE & FILM CORPORATION

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Carding Sets
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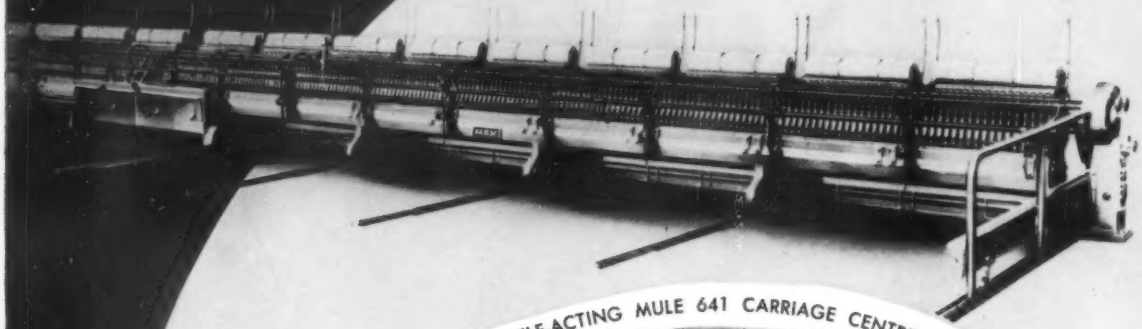
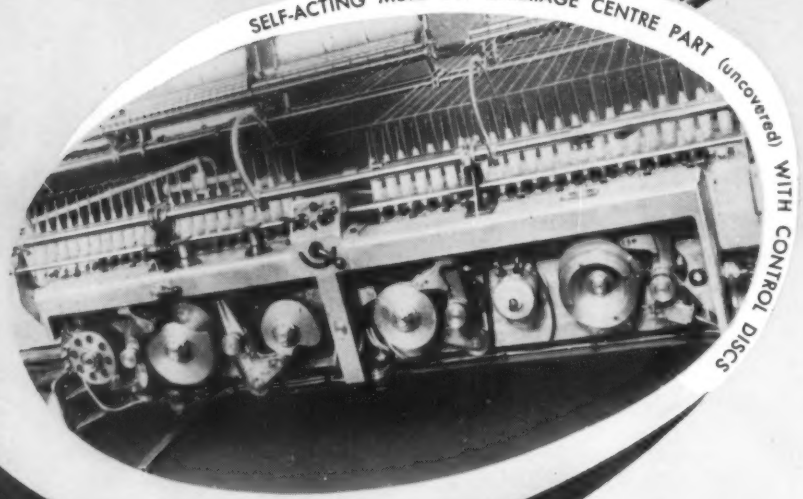




SELF-ACTING MULE 641 CARRIAGE CENTRE PART (uncovered) WITH CONTROL DISCS

**MASCHINENBAU KIEL AKTIENGESELLSCHAFT**

KIEL-FRIEDRICHSORT, GERMANY

**FOLLOW THE LEAD**

**of the two famous names in thread . . .**

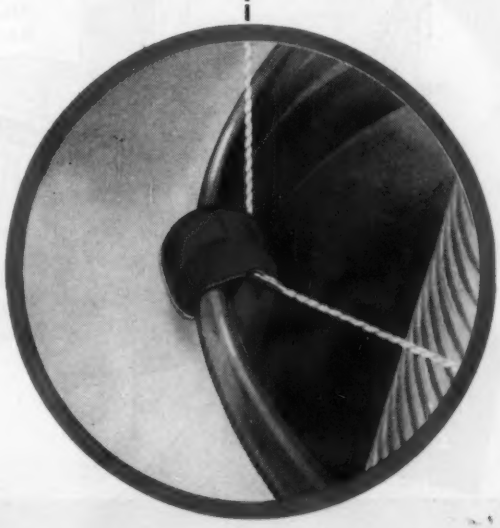
# SAVE COSTS TEN WAYS

**WITH COATS & CLARK'S**

# NYLON TRAVELLERS

Profit by our experience—the longest in the history of thread. Nylon Twister Travellers were developed for our own mills. Their use, in ours and other mills, has resulted in reduced operating costs and *golden* performance. The ten most important advantages are:

1. **No staining of yarn** as a result of metal contamination of ring grease.
2. **Much less lubricant** is required because of the low coefficient of friction.
3. **Cleaner frames and rooms** because of the small amount of lubricant needed; accident risk of greasy floors can be eliminated.
4. **More yardage on bobbins** because you can use heavier tensions.
5. **Higher spindle speed** because of their lightness which reduces friction. 8,000 feet per minute is usual; in some cases 10,000 is practical.
6. **Less end breakage.**
7. **Minimum ballooning.**
8. **Long life**—as long as 3,000 hours—because of extreme wear resistance.
9. **Less down time** for changing travellers; easy to put on and take off with fingers.
10. **Smaller stock** because one traveller covers a wide range of counts.



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**SEND FOR SAMPLES**

Include style and depth of your rings and samples of travellers you now use.

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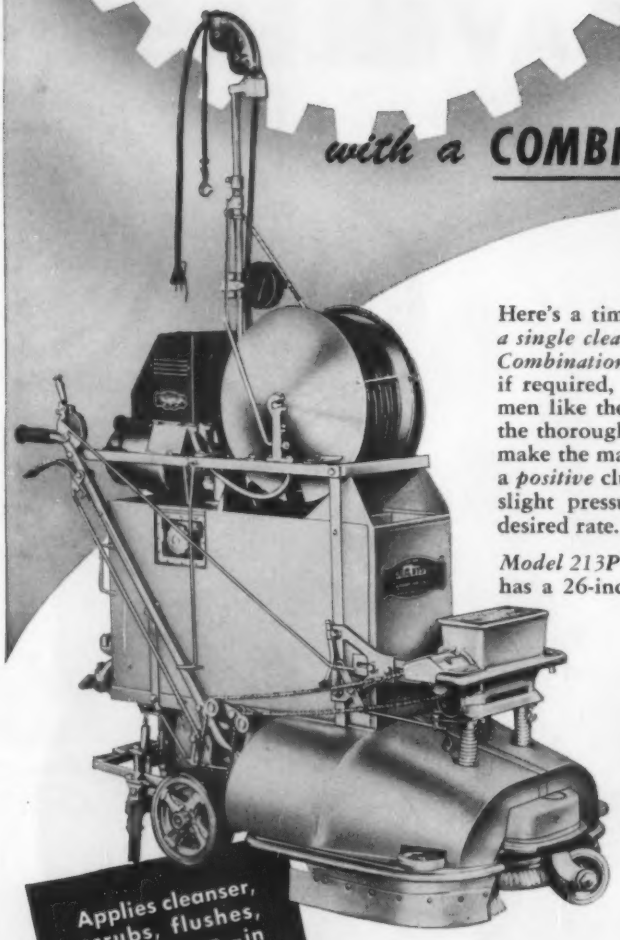
## with a COMBINATION SCRUBBER-VAC!



Applies cleanser, scrubs, flushes, and picks up—in ONE operation!

Here's a timely answer to the need for reducing labor costs—*a single cleaning unit that completely mechanizes scrubbing.* A *Combination Scrubber-Vac* applies the cleanser, scrubs, flushes if required, and picks up—*all in one operation!* Maintenance men like the convenience of working with this single unit . . . the thoroughness with which it cleans . . . and the features that make the machine simple to operate. It's *self-propelled,* and has a *positive* clutch. There are no switches to set for *fast* or *slow*—slight pressure of the hand on clutch lever adjusts speed to desired rate. The powerful vac performs quietly.

*Model 213P* at left, for heavy duty scrubbing of large-area floors, has a 26-inch brush spread, and cleans up to 8,750 sq. ft. per hour! (Powder Dispenser and Level Cable Wind are optional.) *Finnell* makes *Scrubber-Vac Machines* for small, vast, and intermediate operations, and in *gasoline* as well as *electric* models. From this complete line, you can choose the size and model that's exactly right for *your* job (no need to *over-buy* or *under-buy*). It's also good to know that you can lease or purchase a *Scrubber-Vac,* and that *a Finnell Floor Specialist and Engineer is nearby* to help train your maintenance operators in the proper use of the machine and to make periodic check-ups. For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 1906 East Street, Elkhart, Indiana. Branch Offices in all principal cities of the United States and Canada.

**FINNELL SYSTEM, INC.**

*Originators of Power Scrubbing and Polishing Machines*

Everything FINNELL for Floor Care

BRANCHES IN ALL PRINCIPAL CITIES

# in this corner

## new liquid Nacconol® SL

## to help cut wet processing costs

On an equivalent active-ingredient basis Nacconol SL is a better money-value than most dry products. Your detergent-materials cost is less because you get more-cleaning-power-per-dollar.

**and**

You save on handling costs, too. Nacconol SL, being a liquid concentrate, is easy and clean to handle, requires no dissolving. You simply add water to get the desired working concentration. For complete technical data, send for Bulletin #326.

# and in this corner

a handy coupon that will bring you a free sample of Nacconol SL so you can see for yourself how remarkable Nacconol SL really is.

**Please send sample of Nacconol SL**

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COMPANY_____

ADDRESS_____

## NATIONAL ANILINE DIVISION

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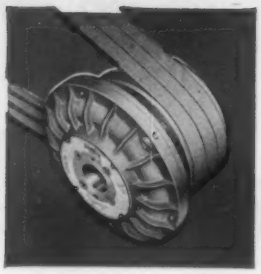


# FLEXIDYNE

## THE DRY FLUID DRIVE

**DODGE of Mishawaka Announces An Entirely New Development in Industrial Power Drives that Promises to Revolutionize Drive Performance! Every Design Engineer and Plant Operating Man in America Will Want the Following Information.**

Here are the facts on how easily Flexidyne handles difficult starting problems, and gives a *new* kind of protection against shock and overloads.

While new in the United States, this drive has already been proved in thousands of installations in Europe. Dodge has redesigned it to American standards and now makes its dramatic advantages available to all industry.

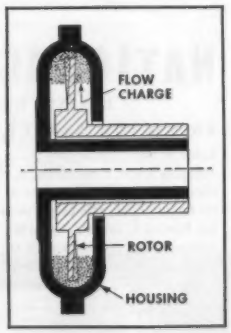
Flexidyne is a *dry fluid drive.* Its advantages over any other fluid-type drive are based on the fact that at normal operating conditions it *does not slip.*

### WHAT IT IS

The Flexidyne Drive is made up of a housing, inside of which a rotor is free to turn concentrically. Between the two are fine particles of spherical steel shot, called the "flow charge," which acts very much like a fluid. The flow charge transmits power from housing to rotor.

This flow charge is easy to seal in, has a high density and can stand relatively high temperatures. The use of this flow charge makes possible a design that is simple, compact, economical, and gives outstanding new and different operating characteristics.

### HOW IT WORKS



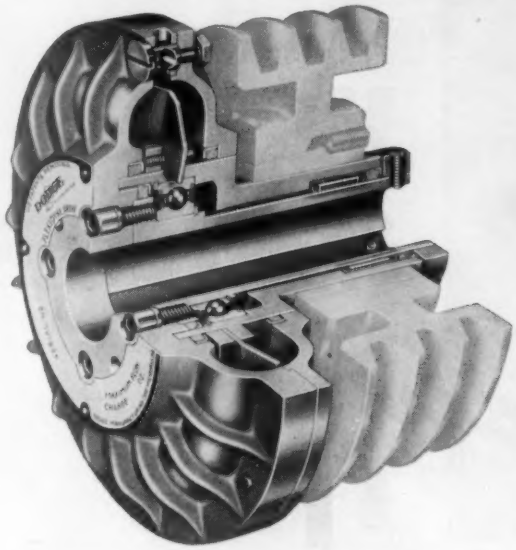

**1.** The motor is connected to the housing, and starts it turning at no load.

**2.** The flow charge is thrown to the circumference of the housing, is compressed by centrifugal force, and revolves with the housing.

**3.** The rotor, connected to the load, is started and accelerated by the friction and wedging action of the revolving flow charge.



For more information, write direct or use Reader-Service post card.



FLEXIDYNE DRIVE (with Taper-Lock Sheave in phantom).

**4.** Rotor and housing reach identical speeds—the Flexidyne operates with ZERO SLIPPAGE between motor and load at normal running speeds.

**5.** Before overloads cause damage, the Flexidyne rotor slips relative to the housing, overcoming the friction and wedging action of the flow charge. A thermal switch (optional) automatically cuts the electrical circuit if an overload persists.

**6.** The amount of the flow charge determines the torque capacity.

## WHAT IT DOES

The Flexidyne gives you the *exact* starting torque you need, for anything from the smoothest to the fastest start. Once the load reaches normal speed, there is zero slip, giving 100% efficiency. Also, it provides *accurate* overload protection, as it can be set to slip at any desired load. During starting and overload periods the current draw is at a minimum because with the standard Flexidyne setting the motor is never pulled down to less than 90% of synchronous speed.

All this is due to Flexidyne's completely new principle, which produces *constant torque* for a given input speed, regardless of the percentage of slip between the rotor and housing (which occurs only during starting or overload).

The Flexidyne is simple to select *off the shelf.* Each size has a standard horsepower rating and yet it is only a matter of minutes to vary the flow charge to give you your own *tailor-made torque* to suit the job.

With Flexidyne you get *uniform* performance regardless of changes in the surrounding temperature.

The Flexidyne has very long life and practically negligible maintenance. *Its simplicity guarantees its dependability.* Gas and diesel engines also benefit from all Flexidyne advantages.

Aside from Flexidyne's low first cost, low maintenance, and top efficiency, it permits the use of smaller, cheaper motors and controls with greatly reduced current demands and improved power factor. Its *smoother* starts and *gentler* overload protection avoid breakage and reduce maintenance on drives, gears, bearings and driven machinery.

## FLEXIDYNE COUPLINGS

Two lines will be available—*Flexidyne Drives,* for convenient mounting directly on motor shafts and adapted for Dodge Taper-Lock Sheaves, and *Flexidyne Couplings* with Taper-Lock Bushings, for straight line drives. Several thousands of these units of French design, in capacities ranging from fractional to thousands of horsepower, are now in use in Europe. Dodge will first offer — from stock — four sizes rated at 3 to 30 hp at 1800 rpm. Other sizes will follow.

Write now for special bulletin, delivery dates and application information.

**DODGE MANUFACTURING CORPORATION**
**1400 UNION STREET, MISHAWAKA, INDIANA**

***CALL THE TRANSMISSIONEER,*** your local Dodge Distributor. Factory trained by Dodge, he can give you valuable assistance on new, cost-saving methods. Look for his name under "Power Transmission Machinery" in your classified telephone directory, or write us.

DODGE
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GOODYEAR
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*Announces*

the appointment of

**GENERAL LATEX & CHEMICAL CORPORATION**

as sales representative in the United States
for the sale of GR-S Latices.
This association will continue to
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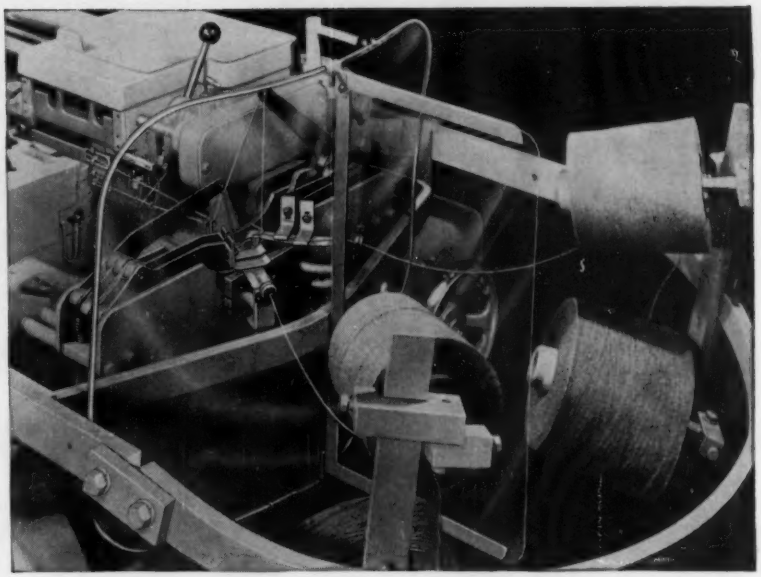
# NEW FILLING MIX UNIT



## opens new fields for owners of Warner & Swasey-Sulzer Weaving Machines®!

*Weave more uniform, higher quality cloth—at 240 p.p.m.*

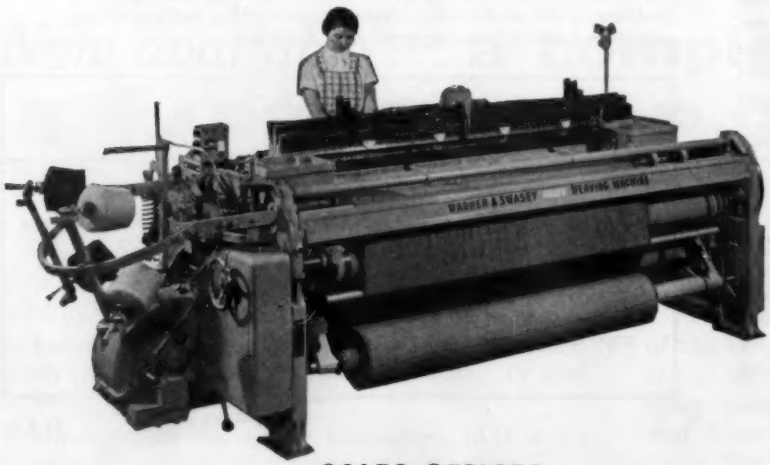
Yes, now the Warner & Swasey-Sulzer Weaving Machine offers you greater flexibility—a wider range of use. With the new Filling Mix Unit, alternately drawing from two different packages, it blends single picks of yarn from each at speeds unequalled by any other machine!

This means higher quality fabrics—faster, lower cost production. It eliminates the possibility of filling bars. It minimizes any variations in yarn sizes, or variations in colors. A pick-back attachment makes it easy to avoid imperfections in the finished cloth.

And with this new unit you can weave alternate pick fabrics, using different colored yarns, worsteds and woolens, or different blends—previously considered too difficult or expensive for high production machines. It weaves these fabrics often for less than ¼ previous costs!

This new Filling Mix Unit is adaptable to all existing Warner & Swaseys, and is available on all new models. For full information on how this new unit can cut costs and speed production for you, call in your Warner & Swasey Field Representative for all the facts.

® Reg. U. S. Pat. Off.

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*Modernize and economize with the* LEESONA®

# Double-Profit Service

**Learn how modern textile machinery will benefit you, and how you can get it under practical, simplified financing**

### *What is the Leesona Double-Profit Service?*

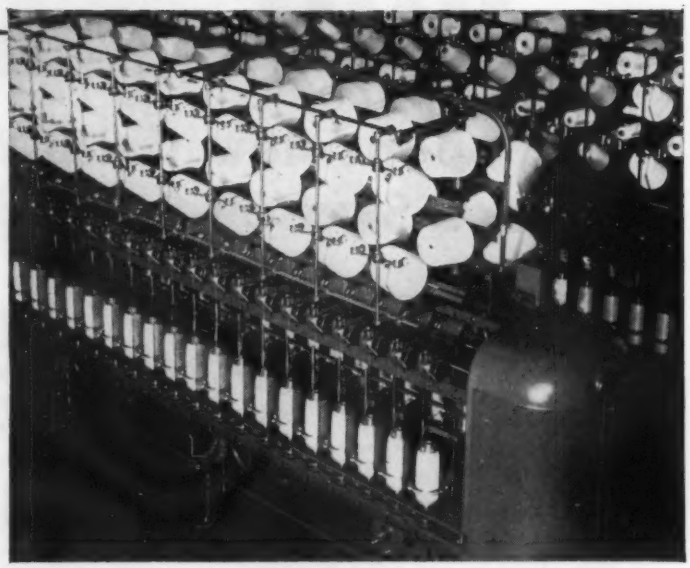
This is a two-way service to the textile industry, developed and offered exclusively by the Universal Winding Company. It is designed: (1) to aid textile mills in determining their twisting and winding machinery requirements; and (2) to aid mills in obtaining the machinery they need for modernization with minimum financial strain. It consists of two parts: Leesona Profit Factor Studies and Leesona Pay-As-You-Profit Plans.

### *What is a Leesona Profit Factor Study?*

It is a detailed, confidential study of a mill's twisting and winding operations — including related operations — followed by a complete analysis with expert recommendations on how to effect savings and improve production. It is entirely without obligation on the part of mill management.

### *What are the Leesona Pay-As-You-Profit Plans?*

Supplementing Leesona Profit Factor Studies, they are Plans designed to help mills strengthen their competitive position while safeguarding their capital and borrowing power. There are two of them — one providing for long-term purchase, the other for long-term lease, of any Leesona twisting and winding machinery.



***The Model 10 Ring Twister*** is a typical Leesona advancement of textile machinery design. By taking advantage of Leesona Profit Factor Studies and Pay-As-You-Profit Plans, many mills are now profiting by the production-improving, cost-cutting features of this and other Leesona twisting or winding machines.

***This folder tells you*** all about the Leesona Double-Profit Service, including Profit Factor Studies and Pay-As-You-Profit Plans. Read how you may take advantage of either of its two valuable features — or combine both to profit *two ways*. Send for your copy today.

23.4.24

**UNIVERSAL WINDING COMPANY**

P. O. BOX 1605, PROVIDENCE 1, R. I.

*Sales Offices:* Boston • Philadelphia • Utica • Charlotte • Atlanta • Los Angeles

*Winding and Twisting Machinery for Natural and Synthetic Yarns*

# *Now available* . . . **a complete line of U-L APPROVED LP-Gas lift trucks**

## . . . 2000 to 7000 lb. capacities

*You get* **THESE BENEFITS** *with Clark LPG lift trucks:*

**1. Reduced engine wear, longer life:** LPG burns with nearly perfect combustion, leaves no carbon or lead deposits.

**2. Increased oil life, better lubrication:** LPG won't dilute crankcase oil.

**3. Reduced spark plug maintenance:** LPG won't foul spark plugs, even with long idling time.

**4. Quieter, smoother operation:** no detonations with LPG.

**5. Cheaper fuel:** especially in bulk quantities.

**6. Improved indoor working conditions:** LPG burns clean, reduces fumes.

Recent field reports indicate enthusiastic approval of the benefits of LPG lift truck operation. Users report substantial savings in their materials handling operations—lower fuel cost, less maintenance and down-time, improved indoor working conditions. For full details, call your local Clark dealer or write:

**Industrial Truck Division**
**CLARK EQUIPMENT COMPANY**
**Battle Creek 27, Michigan**

**CLARK EQUIPMENT**

 For more information, write direct or use Reader-Service post card. 

# HOW TO BUY ENDLESS BELTS

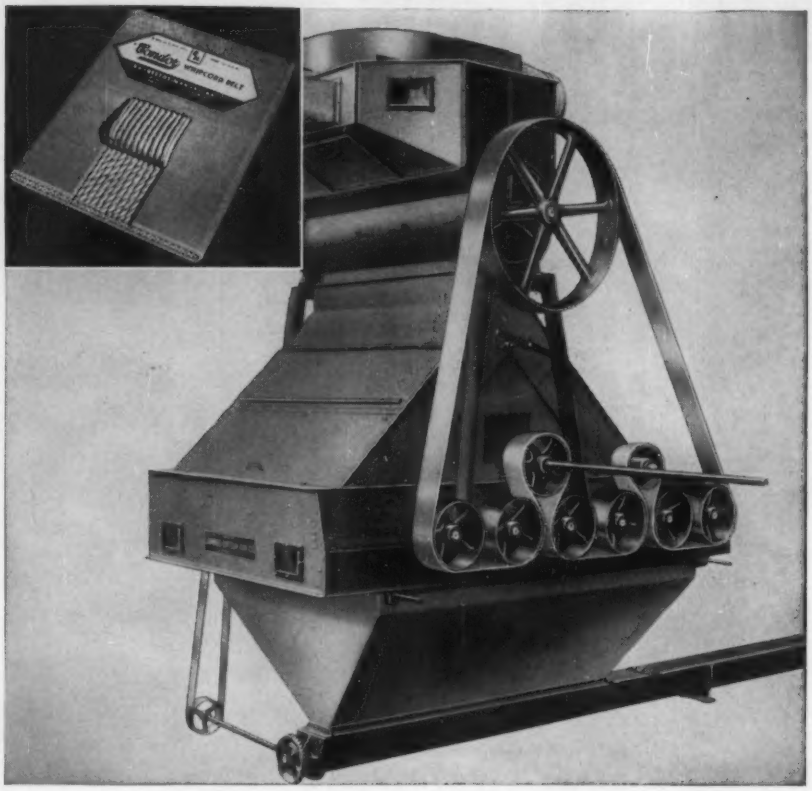
## FOR LONGER LIFE on "Belt-Killer" Drives

### *"More Use per Dollar"*

Look for a rubber belt engineered to give maximum flexibility and to eliminate belt shrinkage or stretch and separation at the cover-end.

Belt failures caused by excessive tensions, small pulleys and high speeds can be avoided by the careful selection of the endless belt you buy. Flexibility is of primary importance when selecting a belt for machines where serpentine drives supply power for several operations — for built-in drives with reverse bends and short centers. The belt you select should flex naturally in either direction . . . without stretching. It should be impervious to extreme atmospheric conditions because excessive shrinkage damages shaft bearings and shortens belt life. In ordinary belts, the cover-end tends to separate when rounding the pulleys because stress is concentrated in a narrow line seam. Look for the belt that extends the cover-end splice over a wide area so that stress is dissipated.

Specify, by name, the endless belt engineered to give you these advantages . . . specify Condor Whipcord Endless Belt.



## CONDOR WHIPCORD ENDLESS BELT

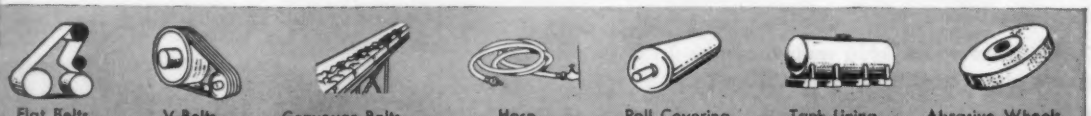
An all-purpose belt designed for all types of endless drives, Condor Whipcord Belt offers exceptional advantages for "belt-killer" drives — short centers, small take-up, small pulleys, reverse bends, high speed and high tension. Extremely flexible, they feature an endless-wound, sealed-in cord construction which is pre-stretched during manufacture . . . they will not stretch or shrink on the drive and are virtually unaffected by variations in atmosphere. R/M's exclusive Extensible-Tip splice is a series of rubber rivets spaced over a wide area to secure the cover-end and eliminate cover separation. On some drives, Condor Whipcord Belts have outlasted 3 to 10 ordinary belts.

Let an R/M representative show you how you can get more dependable machine operation and longer endless belt life — "More Use per Dollar" — with Condor Whipcord Endless Belt.

RM 517 T

MANHATTAN RUBBER DIVISION — PASSAIC, NEW JERSEY

## RAYBESTOS-MANHATTAN, INC.




Other R/M products include: Industrial Rubber • Fan Belts • Radiator Hose • Brake Linings • Brake Blocks • Clutch Facings Asbestos Textiles • Packings • Engineered Plastic, and Sintered Metal Products • Bowling Balls



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# ANNOUNCING!

## ...A TOTALLY NEW NEEDLE LUBRICANT for fine-gauge full-fashioned and seamless knitting machines

# SHELL VEXILLA OIL 117

1. **12 TIMES GREATER RUST PROTECTION** than the best current oils . . . during both operating and shutdown periods.

2. **Eliminates green soap formation,** and minimizes machine oxidation.

3. **Controls nylon size deposits,** and permits easy cleaning during shutdown periods.

4. **Very low surface tension,** resulting in increased wetting and lubrication.

5. **No gummy deposits . . .** contains no fatty acids.

**Shell VEXILLA OIL 117** establishes a new set of standards in knitting machine lubrication. Test it in comparison with the oil you are using. Write for further information.

**SHELL OIL COMPANY**
50 West 50th Street • New York 20, New York

SHELL

**Loading Creel With Yarn** direct from Cargotainer is operation being performed here.

**Yarn Is Protected From Dust and Dirt** by vinyl coated liners fitted inside the sturdy steel wire Cargotainers. Colored tags save time —identify merchandise.

# How American Thread Company Saves $75,000 Yearly with Cargotainers®

Handling 50,000 pounds of cotton yarn daily, 250 to 350 pounds at a time, through a quarter-mile-long production line—safely, quickly and at low cost was the problem at American Thread's new plant at Sevier, North Carolina.

In the company's other plants, canvas baskets mounted on rickety wooden frames with rubber wheels, cardboard boxes, and wooden bins had been used. Grease from the wheels rubbed off occasionally, spoiled expensive yarn. Yarn was also subject to bruising in fragile baskets which had to be replaced frequently. Cardboard and wooden boxes couldn't be stacked very high without danger of toppling over. In short, handling and storing yarn and thread was a costly and sometimes hazardous job.

Before a wheel turned in the new plant at Sevier, materials-handling engineers from Pittsburgh Steel Products Co. worked closely with American Thread production and materials-handling men. Each step,

**Versatile Cargotainers** are used to handle yarn in all stages of processing.

**Easy-to-Ship Cargotainers** ride safely and securely in trailers. Yarn goes to other American Thread plants for further processing.

from arrival of raw gray yarn to shipment of finished products, was studied closely.

Result? Four-thousand strong, easy-to-clean, stackable Cargotainers were custom-made in two different sizes to American Thread's exact specifications. Another 6,000 Cargotainers are working at the company's other plants.

Today, American Thread engineers figure they are saving approximately $75,000 per year with Cargotainers compared to cost of using outmoded materials-handling equipment. Handling of material has been greatly speeded. Storage space has been halved. Damage to material has all but vanished and the constant expense of replacing wooden boxes and wood-reinforced canvas baskets has been eliminated.

Cargotainers never stop working. No Cargotainer has ever worn out. They can be handled by most types of materials-handling equipment—lift trucks, platform trucks, fork trucks, hand pallet trucks, conveyors, or overhead cranes. Mechanically, they can be stacked safely to make maximum use of floor space.

Cargotainers can be used to move, store, process everything from auto parts to smoked hams. Whatever your products, there is a type and design of Cargotainer to do the job better at lower cost. Cargotainers with their open mesh construction are easy to keep clean—material is easy to find. Five folded Cargotainers take the same space as one unfolded.

Why not get a free estimate, without obligation, on how much you could save if you switched to Duty-Designed Cargotainers. The coupon is for your convenience. Fill it out and mail today.

**Loaded Cargotainers Save Space**—are easily stacked by straddle-type lift truck in narrow aisles.

*"Everything New But The Name"*

# Pittsburgh Steel Products Company

*a subsidiary of*

## Pittsburgh Steel Company

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Gentlemen: Please send at once a copy of your free booklet "Duty-Designed Cargotainers."

Name _____ Title _____

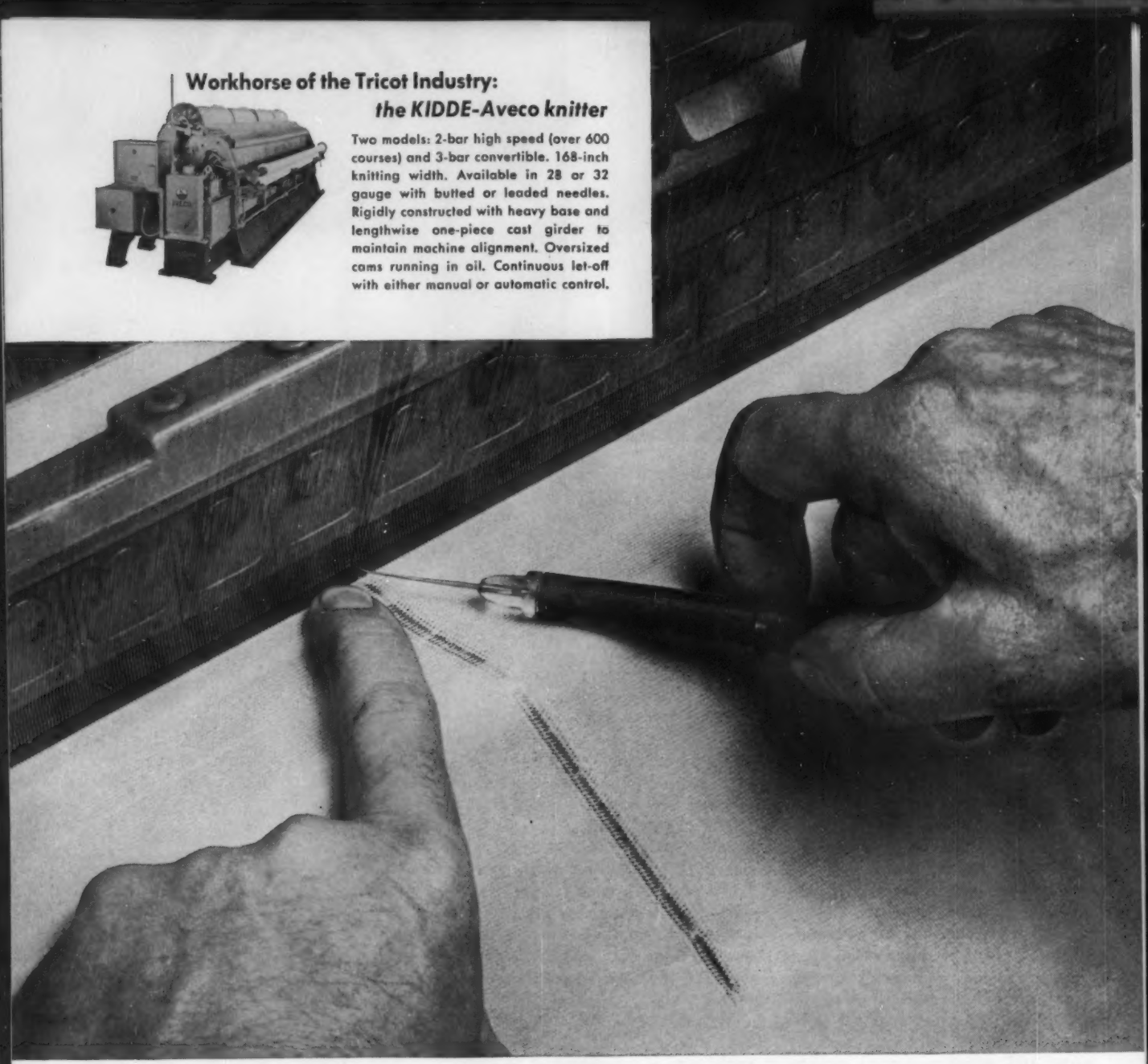
Company _____

Address _____

**Workhorse of the Tricot Industry:**
***the KIDDE-Aveco knitter***



Two models: 2-bar high speed (over 600 courses) and 3-bar convertible. 168-inch knitting width. Available in 28 or 32 gauge with butted or leaded needles. Rigidly constructed with heavy base and lengthwise one-piece cast girder to maintain machine alignment. Oversized cams running in oil. Continuous let-off with either manual or automatic control.



# There are only two alibis for this

In a well-run mill knitting tricot fabric on KIDDE-Aveco machines, there are only two excuses for an imperfection: a yarn defect or a broken needle.

Mills that operate KIDDE-Aveco tricots know that their gentle press action makes needles last longer . . . that they have fewer broken needles than with other machines. Both the Model E high speed 2-bar machine and the Model F 3-bar convertible have the ability to run for hours . . . producing piece after piece . . . without a damage caused by a needle break. This is one good reason why KIDDE-Aveco machines are known as the industry's greatest poundage producers.

If out-of-date tricot machines are hurting your competitive position, you'd better investigate KIDDE-Aveco knitters right now. For complete information, write to:

**TRICOT AND RASCHEL MACHINES • TRICOT WARPERS • HORIZONTAL WARPERS**
**BEAMERS • CREELS • SLASHERS • WINDER-REDRAWS • TENSOMETERS**

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*The word KIDDE is the trademark of Walter Kidde & Company, Inc., and its affiliated companies.*

# SWIFT'S SOAPS

## treat fine woolens right!

For fifty years, Swift's soaps have been giving excellent performance when confronted with normal or even unusual fulling and scouring requirements.

Where long fulling cycles are required to obtain the dense, felted finish . . . the soft hand . . . and long wearing qualities that spell superiority, Swift's soaps can spell performance and economy into the same operation by giving excellent sudsing with maximum mileage.

There's a Swift soap for the textile finishing job regardless of temperature; or for use wherever fine dyeing calls for complete, yet gentle scouring. There's one for *your* particular set of requirements . . . one to give sure, skilled and experienced service — where fine woolens need the *right* treatment.

Write for details today, and remember...

ONE TRIAL IS BETTER THAN A THOUSAND CLAIMS

**FOR FAST DELIVERY AND RESOURCEFUL SERVICE**

375 Swift's distribution points located throughout the U.S. and Canada can give you immediate delivery on these Swift-quality soap products:

**VERTEX FLAKES**

●

**557 FLAKES**

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**WHITE RIBBON FLAKES**

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**WOOL FLAKES**

**SWIFT & COMPANY**

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1855 CENTENNIAL 1955

TO SERVE YOUR INDUSTRY BETTER

 For more information, write direct or use Reader-Service post card.

# HOW STAINLESS STEELS BOOST DAY-TO-DAY SAVINGS in textile production

**Crucible Rezistal® Stainless Types for Textile applications**

| STAINLESS TYPE | NOMINAL % Cr | Ni | Other | USED FOR |
|---|---|---|---|---|
| 302 | 18 | 8 | | General Purpose |
| 303 | 18 | 8 | S | Free-machining |
| 304 | 19 | 9 | Low C | Welding |
| 309 | 25 | 12 | | High Temperature |
| 310 | 25 | 20 | | Higher Temperature |
| 316 | 18 | 12 | Mo | High Corrosion-resistance |
| 317 | 19 | 13 | Mo | Higher Corrosion-resistance |
| 318 | 18 | 12 | Mo, Cb | Welding (stabilized) |
| 321 | 18 | 8 | Ti | Welding (stabilized) |
| 347 | 18 | 8 | Cb | Welding (stabilized) |

To plant and mill operators, stainless steel is not a luxury metal—but the most economical construction material they can use wherever there's need for its exceptional corrosion-resistance, strength and cleaning ease.

Add to these properties its remarkable resistance to wear and abrasion – and you can see why Crucible stainless steels mean longer service life, increased production, reduced maintenance and cleaning time, fewer replacements and repairs... throughout the textile plant.

See how stainless steel can boost day-to-day savings in your plant. Get practical, economy-minded advice on stainless selection, fabrication and maintenance in your free copy of "Making the Most of Stainless Steels in the Textile Industry." Send for it today. Or call your local Crucible representative. *Crucible Steel Company of America, Henry W. Oliver Building, Pittsburgh 22, Pa.*

**CRUCIBLE** first name in special purpose steels

**Crucible Steel Company of America**

# HUNTER *equipment assures Efficient...Economical piece dyeing at* ABBEVILLE!

Synthetics, cottons and wool are in the complete picture of 108 years of Hunter know-how . . . with the finest, most dependable machinery for low-cost finishing of both man-made and natural fiber fabrics.

Installation photo shows two HUNTER BAROTORS* at Abbeville Mills Corporation. The Hunter Barotor gets results never before possible in piece dyeing: ***produces more uniform dyeing • eliminates rope marks because goods are kept open width • reduces time of dyeing cycle • reduces chemical costs*** . . . And we know at least *15* other reasons why the Hunter Barotor is the only machine that can give you *complete* satisfaction in dyeing *all* synthetics and natural fibers. To find out what these money-saving reasons are, send today for the Hunter Barotor Bulletin BAR 7.

**THE EXCLUSIVE HUNTER LOADING DEVICE**

loads and unloads twice as fast as slower manual methods. Another Hunter "first" to help you increase production and cut labor costs.

★ ★ ★

*Manufactured under license from E. I. duPont deNemours & Company . . . patents pending by duPont and James Hunter Machine Company.

**Gas production**

+ efficient operation of modern equipment
+ less down time of equipment
+ quick, easy repair . . . rapid parts delivery

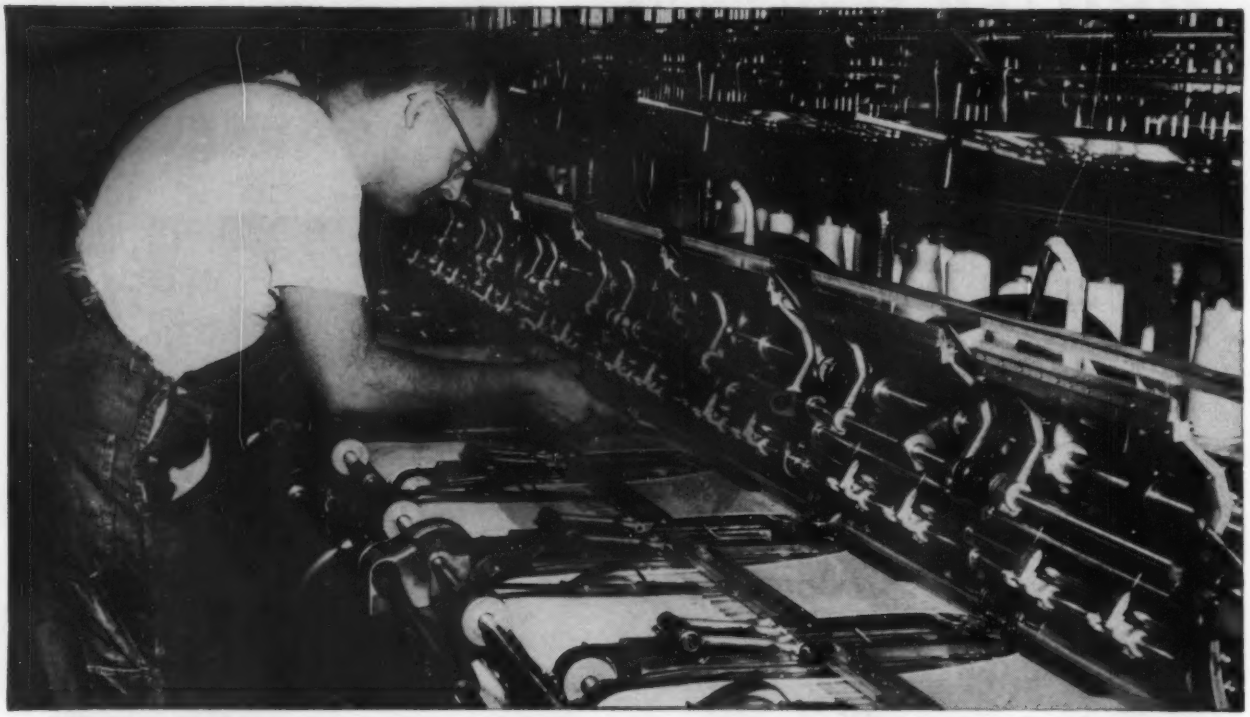
# JAMES HUNTER MACHINE COMPANY

NORTH ADAMS, MASSACHUSETTS FOUNDED 1847

BUILT BY HUNTER . . . IT'S DEPENDABLE

JAMES HUNTER MACHINE CO. Hunter NORTH ADAMS MASS

Gulftex Oil is applied to the needles of the full-fashioned hosiery knitting machines at the Virginia Maid Mill with a plastic squeeze bottle.



# *"We reduced needle breakage with* GULFTEX OIL"

**says Mr. Earl S. Gress, Superintendent,**
**Virginia Maid Hosiery Mill, Inc., Pulaski, Va.**

"During the two years we have been using Gulftex Oil in our knitting machines we have noticed that needle breakage is down considerably, and needles stay clean—free from gum deposits and rust," says Mr. Gress. "Needless to say, we have increased output and reduced maintenance costs."

In addition to the many fine qualities that Mr. Gress has found to be so important, Gulftex Oil has superior non-staining characteristics which make it a valuable lubricant for any application where the staining of fabrics is a problem.

So if you feel that your needle lubricant is not doing the best possible job, call in a Gulf Sales Engineer and have him demonstrate the advantages of Gulftex Oil in your mill. You can contact him today at your nearest Gulf office.

**Gulf Oil Corporation · Gulf Refining Company**
**1822 Gulf Building, Pittsburgh 30, Pa.**

GULF

THE FINEST PETROLEUM PRODUCTS FOR ALL YOUR NEEDS

# SANDOZ

## softeners at your fingertips...

## The right one to meet your special needs

Sandoz is your source for softeners. We specialize in softening compounds for every purpose, and each is outstanding in its use. Whatever fibers you work with, whatever finishing problems you have, Sandoz is prepared to provide an answer. Get in touch with Sandoz – no further away than your telephone.

CHARLOTTE, N. C., 1510 Camden Road
FAIR LAWN, N. J., Fair Lawn Ave. & Third St.
LOS ANGELES, CALIF., 467 East Third Street
MONTREAL (Que.) CANADA, P. O. Box 364, Station "B"
CINCINNATI, OHIO, 3712 Beechmont Avenue
HUDSON, MASS., 312 Main Street
PHILADELPHIA, PA., 2215 E. Tioga Street
TORONTO (Ont.) CANADA, 179 King St. West

**SANDOZ CHEMICAL WORKS, INC.**
**61 Van Dam St., New York 13, N. Y.**

**CERANINE FL ANIONIC**
Provides a smooth, well-lubricated hand. Improves sewing qualities, minimizes friction, steps up production.

**SANDOZIN W Paste NONIONIC**
Compatible with all resin finishes. Gives an unusually soft and desirable hand, outstanding durability. Excellent draping qualities.

**CERANINE HC CATIONIC**
A versatile softener on all fibers . . . outstanding on knit goods. Produces a soft and pleasing hand that's durable, *plus* antistatic properties on synthetics.

**ALL 3 SOFTENERS ARE SUITABLE FOR WHITE GOODS . . . NON-YELLOWING**

SANDOZ

**SANDOZ**
THINKS AHEAD WITH TEXTILES

# DAYCO Cots Eliminate

**New ingredient, IBC, successfully prevents build-up of long staple fibres that cause**

Ask any mill owner who has converted to Dayco Cots on his spinning frames! He'll tell you Daycos have rid his mill of excessive eyebrowing, *completely.*

The reason Daycos have been able to solve this problem, where other cots have failed, is because of a new wonder ingredient — IBC.

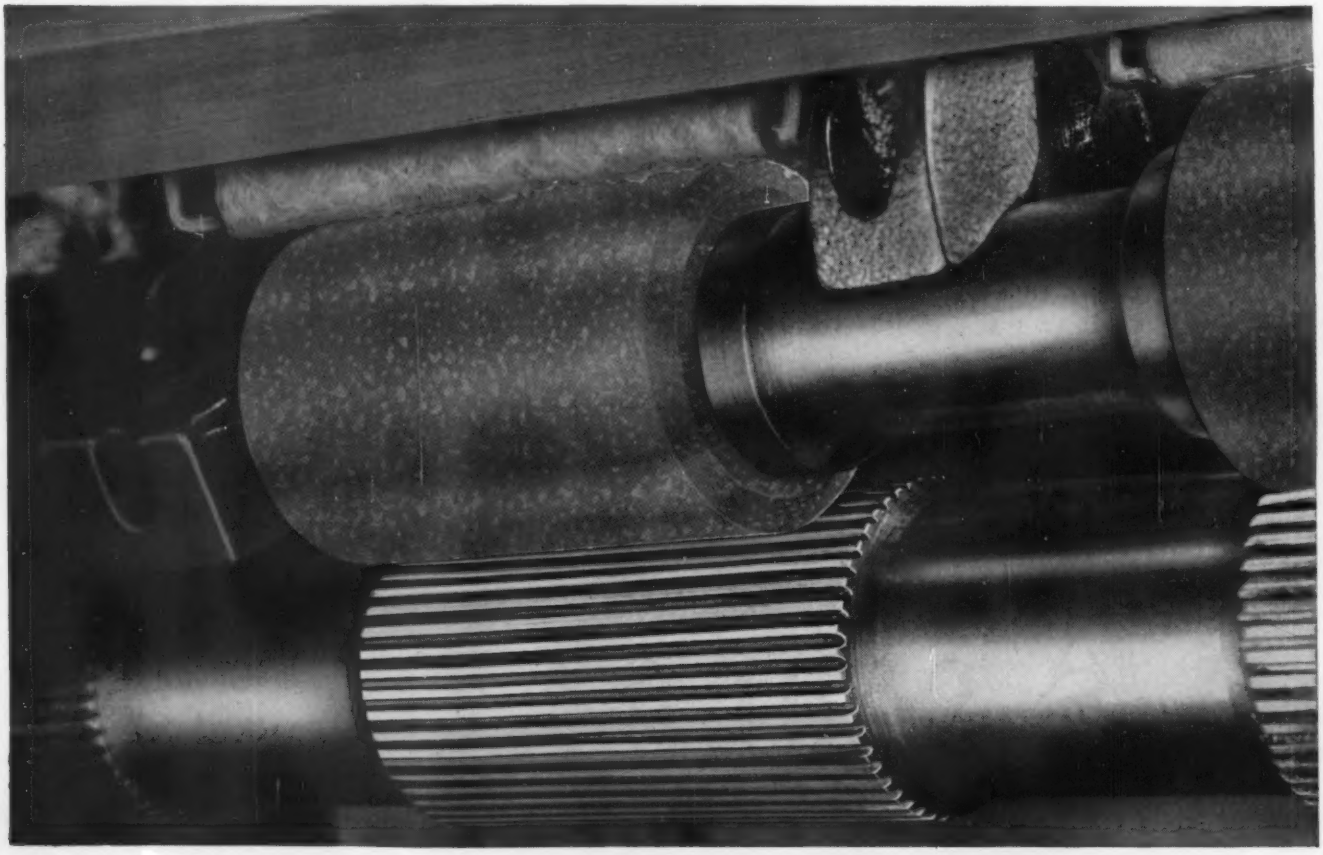
IBC, an exclusive development of the Dayton Textile Research Laboratory, is a non-eyebrowing ingredient which has been combined with a singularly effective blend of synthetic rubber. The combination sets up a mechanical and chemical action, producing just the right coefficient of friction to cause the short staple fibres to be picked up and tucked well back on the clearer board. Long staple fibres, the cause of troublesome eyebrows, are left in the yarn where they belong. The result is less eyebrowing, fewer lap-ups and ends down, less waste, and consistently higher quality yarn.

More than that, Dayco EW 465 Cots offer important savings all along the line. Because eyebrowing is minimized, fewer cleanings of the clearer board are required, thus saving time and labor. And you'll save money on Dayco Cots containing IBC because slicking and glazing is retarded. That means fewer buffings and longer service life.

These are money-saving advantages mill owners everywhere enjoy with Dayco Cots. Why not make a test on your own frames today. Test Daycos side by side with any other cots—on natural or synthetic yarns—we guarantee you'll be amazed at the results and pleased with the improved performance Daycos give you.

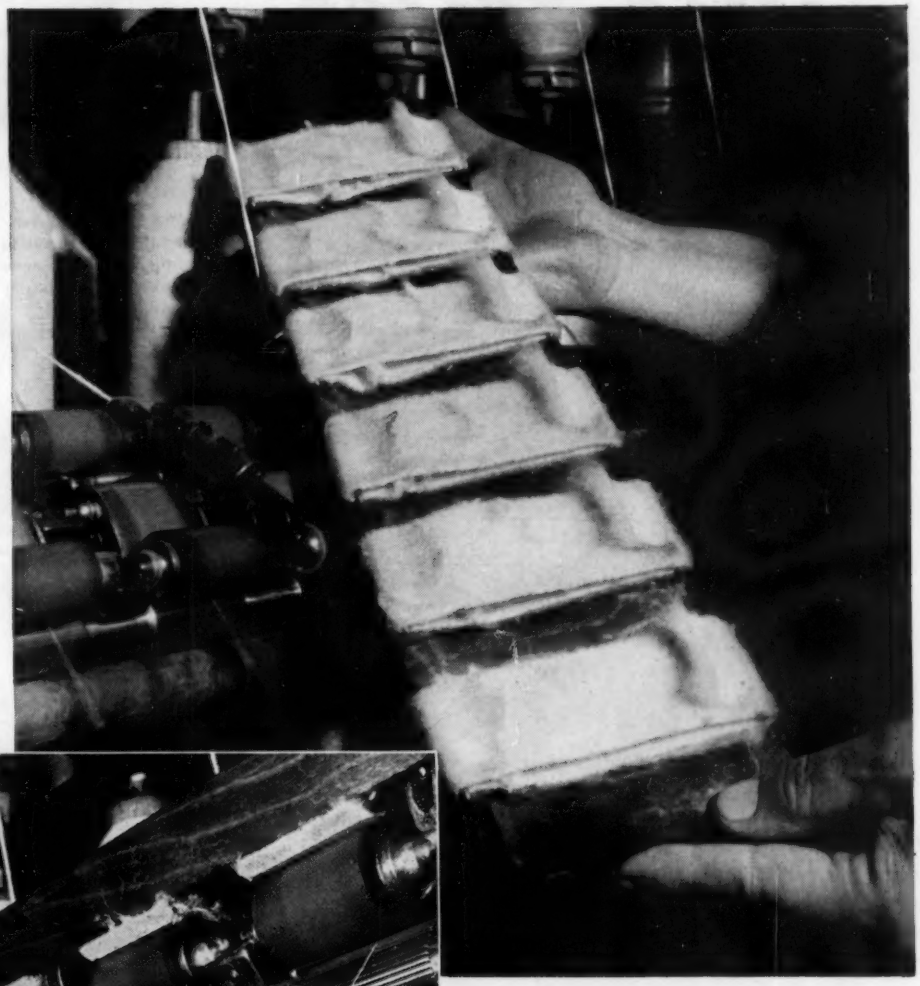
You'll find Dayco Cots will free you from eyebrowing as a major problem, reduce your operating costs through longer cot life, improve yarn quality and uniformity and give you a bonus in time and labor saved!

Call your Dayco representative without delay — he'll be glad to help you make a test of Dayco Cots at once. Or write direct to: Dayton Rubber Co., Textile Division, Dept. 346, 401 S. C. National Bank Bldg., Greenville, S. C.

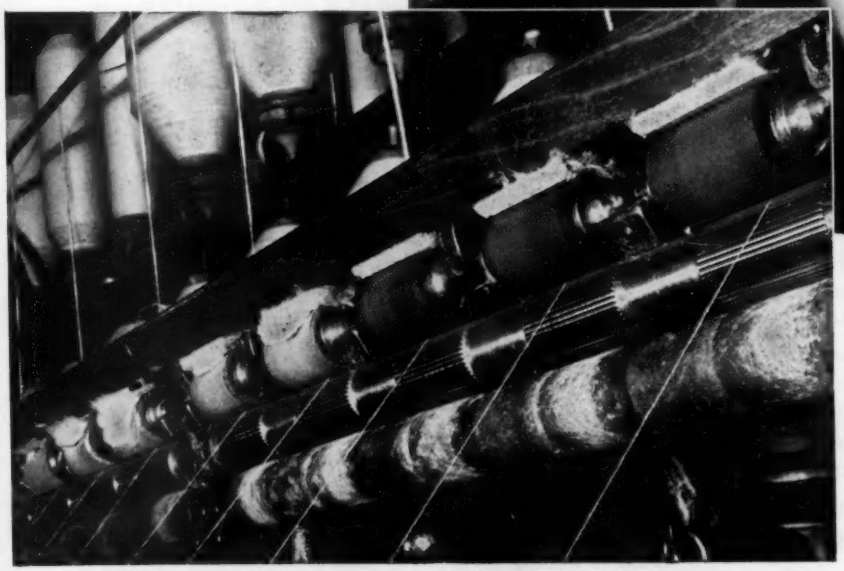


# Eyebrowing as major problem!

**excessive eyebrows!**



Clearer board used with Dayco EW 465 Cots containing eyebrow controlling IBC. Minimum amount of waste collected is seen well back on the clearer board away from the eyebrowing position. Tests prove conclusively Dayco Cots combat eyebrowing, draft superior yarn and reduce overall costs. Make your next cot order Dayco EW 465 Cots with IBC.



Dayco Cots (upper right of the photo) tested on same frame, running identical yarn, for same length of time as ordinary cots at lower left of frame. Note complete lack of eyebrows on forward edge of clearer boards above Dayco Cots.

D.R. 1955

GOLDEN JUBILEE

**Dayton Rubber**

50 YEARS OF PROGRESS

*Dayco and Dayton Thorobred Textile Products for Better Spinning and Weaving*

**Dayton Rubber Co., Textile Div., Dept. 346, 401 S. C. National Bank Bldg., Greenville, S. C.**

# Write us this letter

YOUR LETTER HEAD
ANYTOWN, U.S.A.

date here

Van Vlaanderen Machine Co.
370 Straight Street
Paterson 3, New Jersey

Gentlemen:

Like many another dyehouse, ours still has a number of dyeing machines that are getting old. You may be right in claiming that new high-production machines could improve our competitive position and profit potential. Anyway, we are interested in having your opinion, without obligation of course.

We process _____
(list types of goods)

on _____
(Jigs, becks, etc.)

Yours very truly,
*Your Signature*
(Title here)

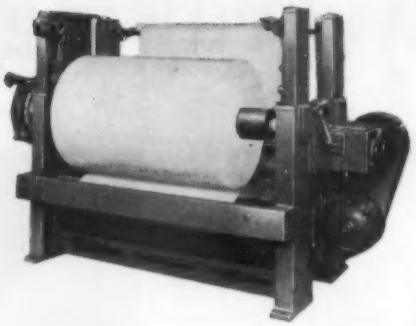
If you are concerned about your competitive position, why not write use a letter like the one above. We are sure we can help improve your profit potential, as we have for many others.

The textile industry has a busy future coming up. For years our population has increased at the rate of 2,000,000 a year and will continue to do so for years to come. Are you in a position to get your share of this ever increasing market?

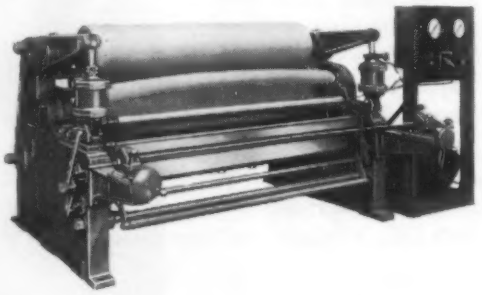
Why not give a critical look at each of your dyeing machines? Many companies are still using some equipment that has lost it's profit making possibilities. Van Vlaanderen can show you that replacement with modern equipment will give you better production, better quality work and better profits.

Whether you need a single machine or an entire plant you should have the benefit of our 53 years of know-how.

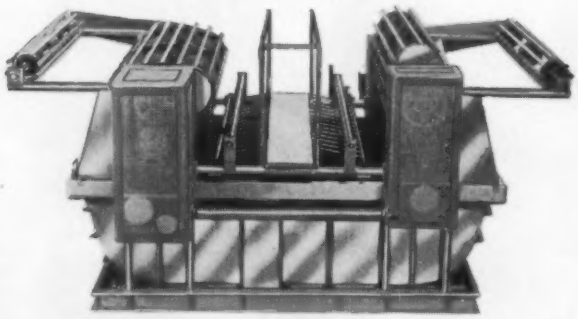
Our engineers invite your inquiry.



The Van Vlaanderen Dyemaster gives better results on all fabrics from sheers to heavy ducks. Constant cloth tension, from practically none for sheers to full for cotton ducks, makes the Dyemaster the most versatile American dyeing machine. Even dyeing results are achieved by near-constant cloth speed through a special differential transmission.



The Van Vlaanderen Ten Ton, 2 Roll Padder is a modern, versatile machine for finishing, resin impregnating and dyeing. It has a new slip-clutch take-up, operating through friction plate-clutches for sensitive tension control. Variable speed drive gives quiet, smooth operation. Pneumatic-pressure or micro-spring set optional. Operators' panel controls each cylinder separately to allow equalizing of nip pressure.



The Van Vlaanderen Duplex Dyeing Machine is a patented reel dyeing machine especially designed to do continuous strand-form piece dyeing of all qualities of goods from lingerie sheers to heavy dress fabrics. Has nearly double capacity with the same floor space compared with the old-fashioned single dye reel.

# VAN VLAANDEREN

## VAN VLAANDEREN MACHINE COMPANY

**370 Straight Street, • Paterson 3, New Jersey**

**In the South — Parrott and Ballentine • 610 South Carolina National Bank Building • Greenville, South Carolina**

**WORLD'S LARGEST MANUFACTURER OF MACHINES FOR PROCESSING MODERN FABRICS**

when it's **TUBES** for winding

# S-t-r-e-t-c-h

## NYLON

**SONOCO**

**is the name to remember!**

Our more than 50 years experience enables us to produce the right carrier at the right time. We have one for winding stretch nylon—now. These tubes were specifically designed for this purpose. Available in various colors or with color tips, with the wall thickness desired and inside dimensions and lengths to meet your specifications. Spiral or Convolute. Deliveries made to fit your scheduling.

Sonoco also manufactures a wide variety of tubes and cores for the textile industry. Sizes range from ⅛" I.D. up to 36" I.D. with any practical wall thickness and length.

**SURFACES** Plain, sized, polished, Unitex or Velvet (solid or banded), parchment wrap, scored, embossed, impregnated, perforated or in combination.

**ENDS** Plain, crimped or burnished—with "V" slit, rectangular, square or half circle end notches.

**IDENTIFICATION** Colored paper, solid or outside or inside wrap, lacquer or dye tipped, printed on ends.

*Discuss your carrier problems with one of our experienced sales engineers or write direct to the sales office nearest you.*

**SONOCO PRODUCTS COMPANY**

MAIN OFFICE—HARTSVILLE, S. C.

MYSTIC, CONN. LOS ANGELES, CAL. BRANTFORD, ONT. LOWELL, MASS.
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MEXICO: Sonoco de México, S. A., Apartado 10239, México, D. F.

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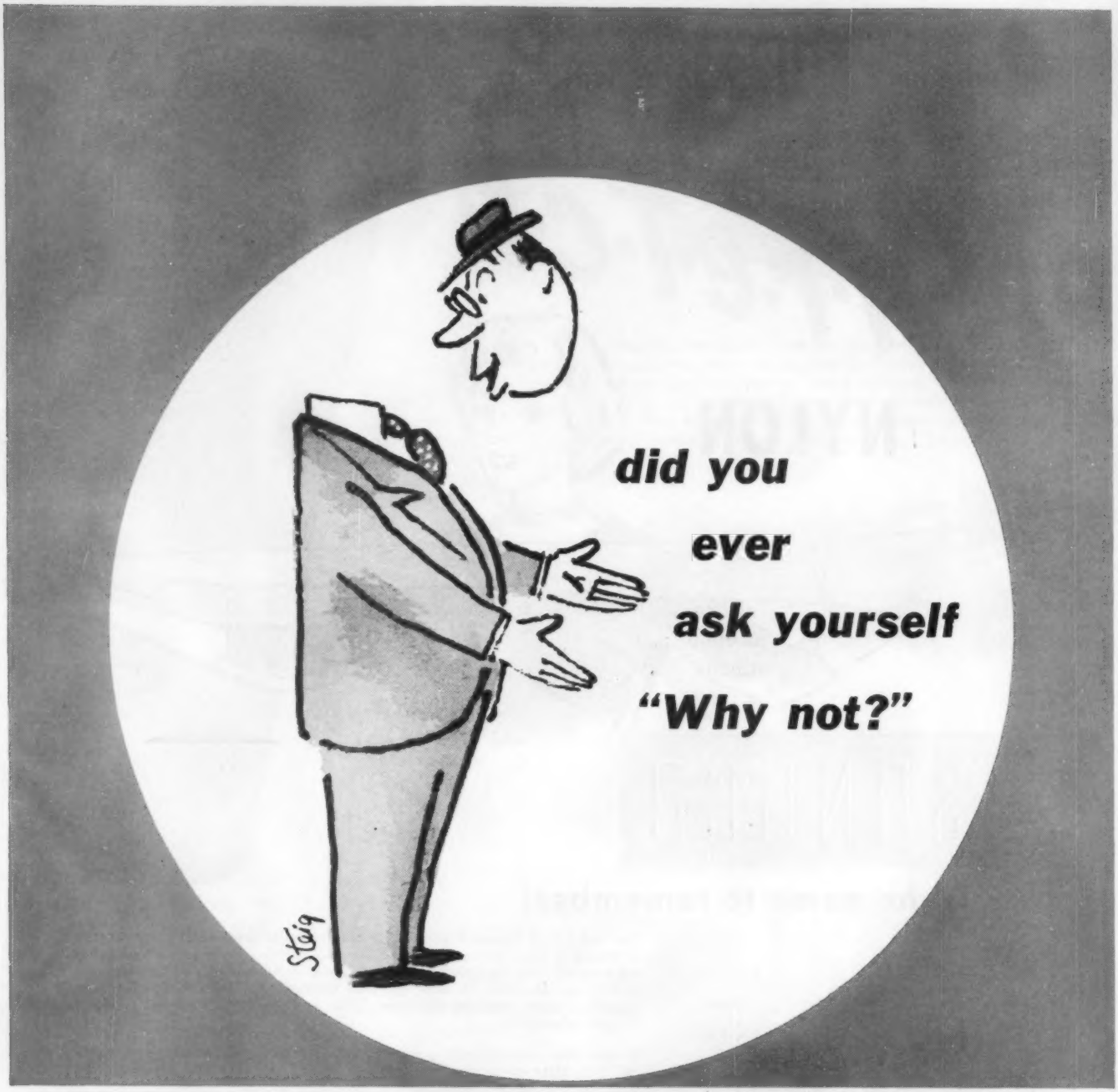


**NEW LUSTER • NEW DYEABILITY • NEW CRIMP • NEW RESILIENCY WITH LESS CRUSHABILITY**

# THE NEW Nylon Staple

...and come up against a brick wall because an idea for a new product, or product improvement was impossible to achieve? Now, working with the seven distinctive features of the NEW Nylon Staple, the chances are that this dream of a product can come true.

For this is an entirely new kind of Nylon Staple... it's a stiffer fiber, with a brighter-than-bright luster that creates sheen without shine... a new crimp that comes up with new and better effects... it dyes quicker, deeper, with greater economy. You can get new resistance to abrasion with it, better spring-back, new strength with finer yarns.

And you can expect the NEW Nylon Staple by IRC to give you the same cost-cutting uniformity and performance that industry has come to expect of IRC rayon yarns.

**NEW ABRASION CHARACTERISTICS • NEW STRENGTH... AND NEW ECONOMY FOR YOU**

## will put new life in a product... bring new products to life

I·R·C
Industrial Rayon Corporation
Sales Offices:
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627 Guilford Building, Greensboro, N. C.

# JENKINS PRACTICAL PIPING LAYOUTS

# 75

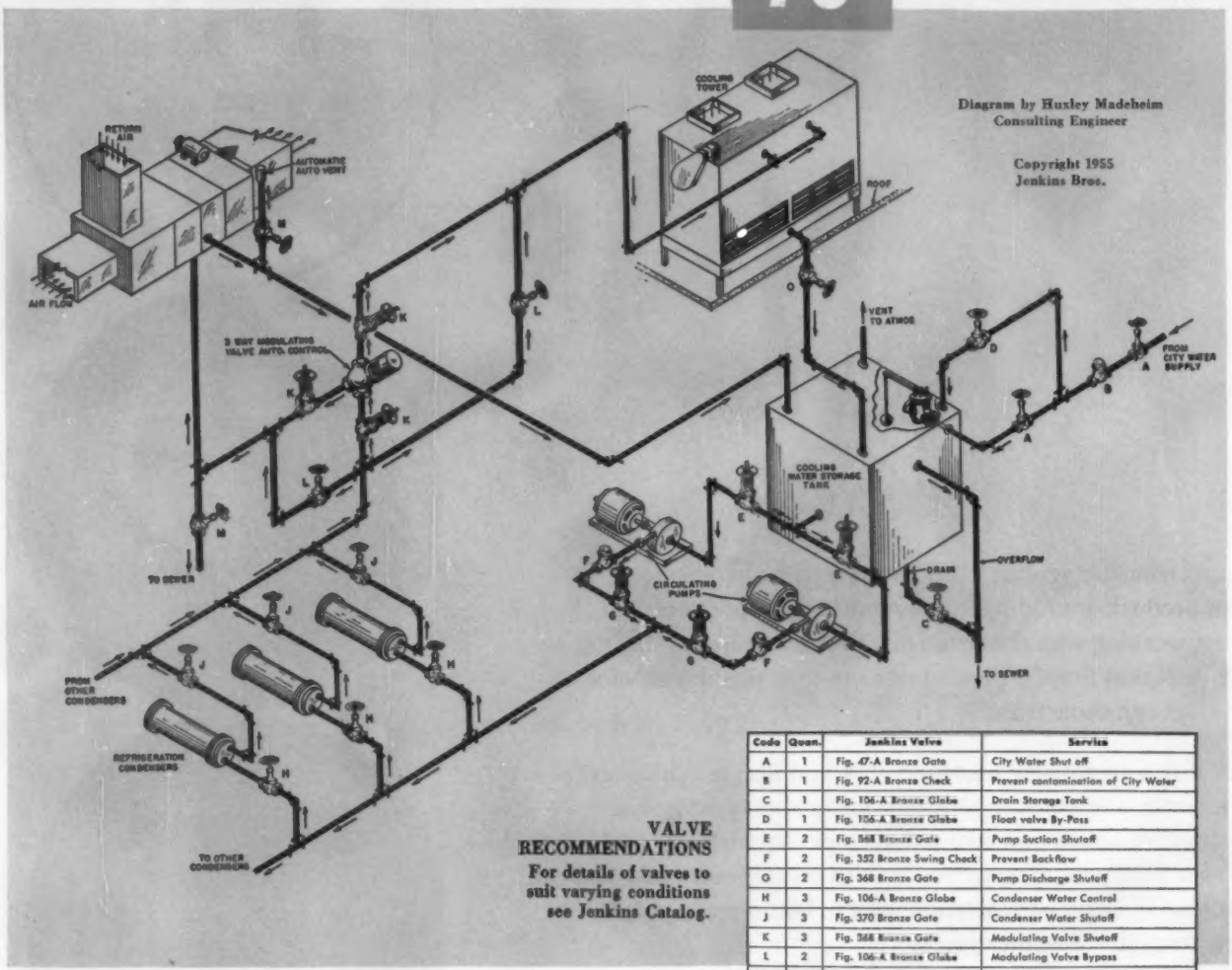



Diagram by Huxley Madeheim
Consulting Engineer

Copyright 1955
Jenkins Bros.

**VALVE RECOMMENDATIONS**
For details of valves to suit varying conditions see Jenkins Catalog.

| Code | Quan. | Jenkins Valve | Service |
|---|---|---|---|
| A | 1 | Fig. 47-A Bronze Gate | City Water Shut off |
| B | 1 | Fig. 92-A Bronze Check | Prevent contamination of City Water |
| C | 1 | Fig. 106-A Bronze Globe | Drain Storage Tank |
| D | 1 | Fig. 106-A Bronze Globe | Float valve By-Pass |
| E | 2 | Fig. 368 Bronze Gate | Pump Suction Shutoff |
| F | 2 | Fig. 352 Bronze Swing Check | Prevent Backflow |
| G | 2 | Fig. 368 Bronze Gate | Pump Discharge Shutoff |
| H | 3 | Fig. 106-A Bronze Globe | Condenser Water Control |
| J | 3 | Fig. 370 Bronze Gate | Condenser Water Shutoff |
| K | 3 | Fig. 368 Bronze Gate | Modulating Valve Shutoff |
| L | 2 | Fig. 106-A Bronze Globe | Modulating Valve Bypass |
| M | 1 | Fig. 106-A Bronze Globe | Drain Heating Coil |
| N | 1 | Fig. 106-A Bronze Globe | Vent Control |
| O | 1 | Fig. 106-A Bronze Globe | Cooling Tower Water Discharge Shutoff |

## *How to plan piping connections for*

## SPACE HEATING WITH HOT WATER DISCHARGE FROM REFRIGERATION CONDENSERS

**Where continuous refrigeration** is required, the heat absorbed by the water circulating through the condensers during the refrigeration cycle may be transferred to circulating air and used for space heating. This hookup illustrates a system that is widely approved for utilizing waste heat in frozen food plants, ice cream plants, supermarkets, and refrigerated warehouses.

**A cooling tower** for water conservation is included in the usual water cooling system for refrigeration condensers, as indicated. All or a portion of the water which usually flows through the cooling tower system may be diverted and circulated instead through a water coil in the summer air conditioning unit. A three way modulating valve, actuated by a room thermostat, controls the water passing through the two parallel circuits, dividing it according to the heating requirements.

**Excess heat,** when all the heat is not required, is removed by regulating the amount of the water circulated through the parallel path of the cooling tower. Additional heat may be provided, when needed, from any other customary source.

**The cooling tower** circuit provides for water storage in a tank inside the building to avoid freeze-ups. The water circuits shown can be full weight red brass pipe, copper tubing, or black iron pipe.

**This combination** of refrigeration and heating is an adaption of the heat pump cycle and will provide both refrigeration and heat for minimum operating costs.

Consultation with accredited piping engineers and contractors is recommended when planning any major piping installation.

To save time, to simplify planning, to get all the advantages of Jenkins specialized valve engineering experience, select all the valves you need from the complete Jenkins line. It's your best assurance of *lowest cost in the long run.* Jenkins Bros., 100 Park Ave., New York 17.

**COMPLETE DESCRIPTION AND ENLARGED DIAGRAM OF THIS LAYOUT FREE ON REQUEST.** Includes additional detailed information. Ask for Piping Layout No. 75.

Jenkins Bros

SOLD THROUGH PLUMBING - HEATING AND INDUSTRIAL DISTRIBUTORS

Horses are born, as a rule, to run,
And most of the bangtails do;
But here's the tale of a *different one*
Whose whole ambition is NOT to run —
FRANKY'S the name to you,
Franky, the Horse of a Different Color,
Horse of a Different Hue.

Stable he is, but not the kind
Commonly found in barns,
Franky, you see, is a more refined
Quality-conscious breed, designed
Wholly of Colored Yarns;
And that's the reason he cannot run —
They're FRANKLIN PROCESS Yarns!

*Fast* to light, and time and tide,
Never gets bleached or shaded!
Take a tip from the real Inside:
***Money that's placed on FRANKY's hide***
***Is a bet that's never faded.***

Get on a horse you know will win —
FRANKY will bring your Colors in,
Knitted, Woven, or Braided!

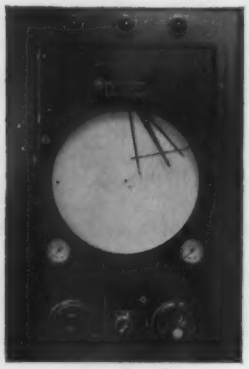
Franky

**the horse of a different color!**

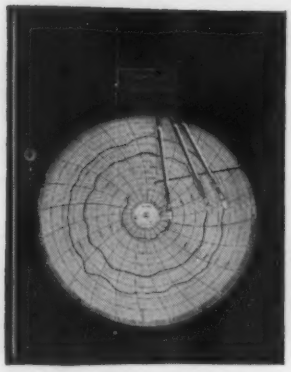
Franklin Process

**COTTON YARNS & CUSTOM YARN DYEING · LARGEST PACKAGE DYERS IN THE WORLD**

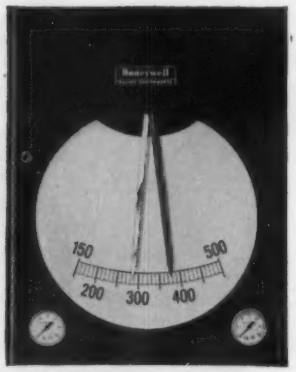
PROVIDENCE • PHILADELPHIA • GREENVILLE
CHATTANOOGA • FINGERVILLE, S. C.
New York Representative — 40 Worth Street



**Dye Kettle Control System . . .** a packaged unit for time-cycle control of piece goods dyeing.

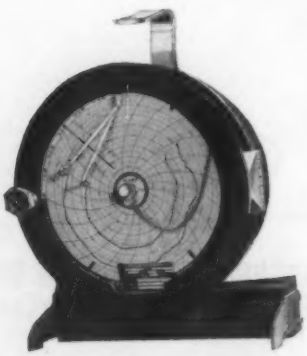


**Thermometer Recorders . . .** in choice of thermal systems . . . single, two-pen and three-pen models.

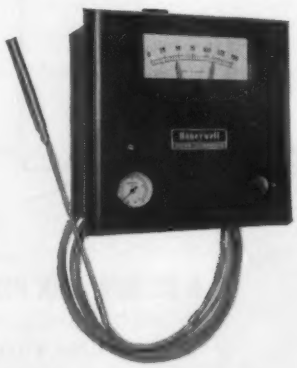



**Thermometer Controllers . . .** indicating and recording models, with electric or pneumatic control systems.

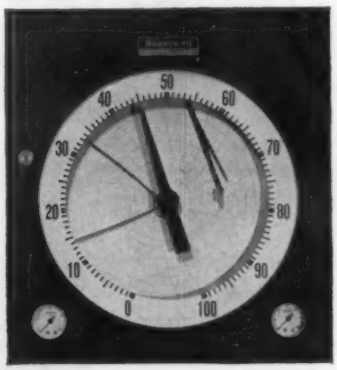
# There's Brown temperature instrumentation to fit *your* mill's processes



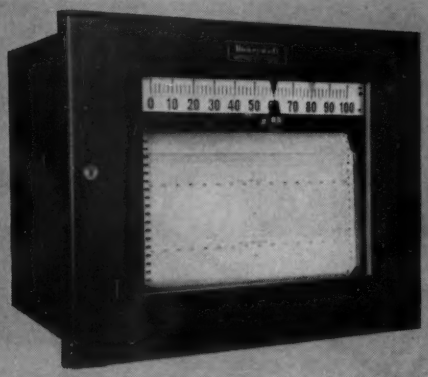
**Portable Thermometers . . .** recording type, ideal for spot checking of process temperatures.



**Indicating Thermometer Controller . . .** economical, compact pneumatic control for temperatures from −40 to + 1000 F.




***ElectroniK* Pneumatic Controllers . . .** on-off, *Throttlor*, or *Air-O-Line* control action . . . also available with various electric control systems.



***ElectroniK* Multi-Point Recorders** . . . strip chart model records up to twenty points on a single instrument.

**Integral Cam Programmer** . . . complete time-temperature control for two separate temperatures, by a single instrument that does the work of up to four.

***Radiamatic* Radiation-type element** . . . detects temperature without touching fabric. Used with *ElectroniK* instrument for controlling heat-setting temperatures.

DURING several decades of work in close cooperation with textile manufacturers, Brown instrumentation engineers have developed a comprehensive line of measuring and controlling equipment for the specialized needs of the industry.

In this complete line you'll find instruments applicable to low, intermediate and high temperatures . . . accuracies ranging from moderate to the highest precision. Control can be selected from a choice that includes simple, field-mounted indicating instruments, remote transmission systems, package-designed panels, and thoroughly automatic time-temperature program systems.

An engineering staff well experienced in the control problems of textile processes applies these instruments to the particular requirements of your own mill. And to assure you of maximum continuity of operation, Honeywell's nation-wide service organization stands ready to render prompt assistance on installation and service . . . by specialists spotted in more than 90 service centers.

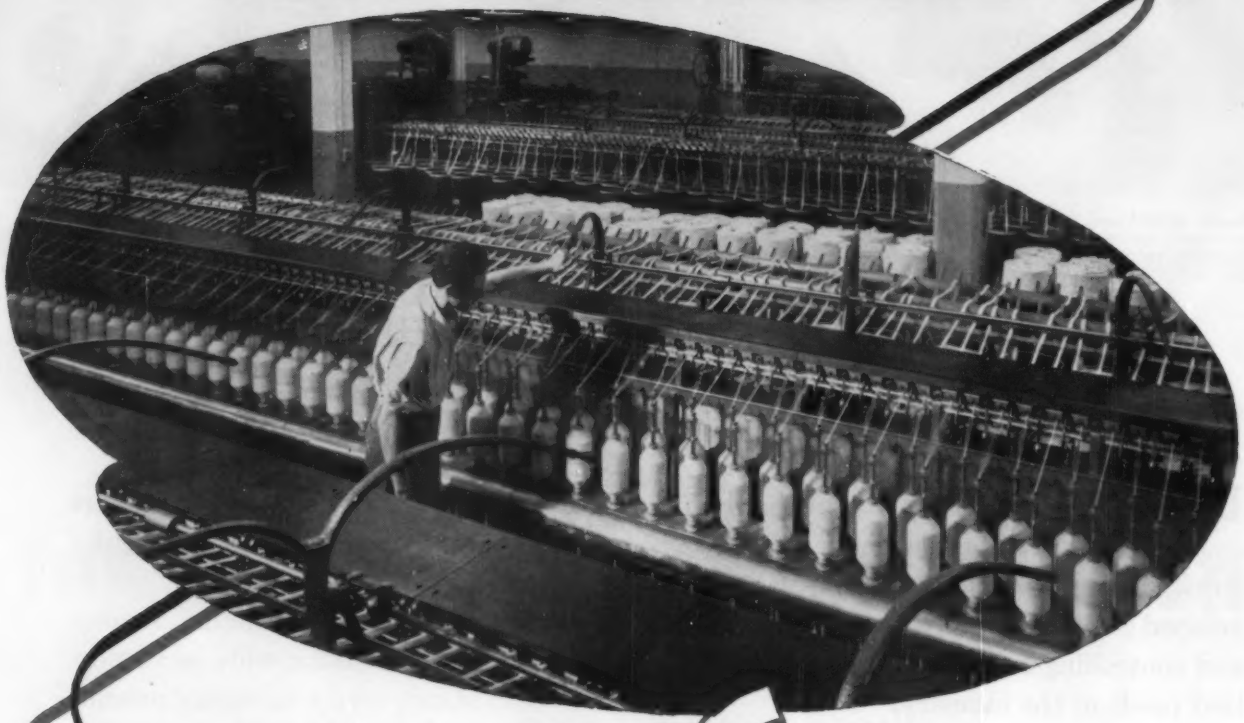
For an answer to your specific temperature application needs, call your local Honeywell sales engineer . . . he's as near as your phone.

MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, Wayne and Windrim Avenues, Philadelphia 44, Pa.—in Canada, Toronto 17, Ontario.

● **REFERENCE DATA: Write for Bulletin 9306, "Instrumentation for Slasher Room Processes"... and for Composite Catalog No. 5000.**

MINNEAPOLIS
**Honeywell**
BROWN INSTRUMENTS
*First in Controls*

# the Better the Roving ...the Better the Spinning



## and WHITIN ROVING is 6 Ways Better!

WHITIN ROVING FRAMES have been recognized by the textile industry as well designed, carefully built machines which provide maximum production of high quality roving with the minimum cost per pound. You will find them better because:-

1. **Four famous Whitin drafting systems are available: Standard Draft, Long-Draft, Inter-Draft, and Super-Draft.**
2. **Flyers are sturdy – precision manufactured.**
3. **Gears are cut for quiet operation – long life.**
4. **Advanced design of elements such as: safety release on skip gear to eliminate gear breakage; anti-friction bearings on bottom cone; use of soft-start motor to avoid jogging.**
5. **Maintenance, oiling, cleaning and operating costs reduced to minimum according to all users.**
6. **Available in all standard sizes and lengths up to 12" x 6½" (96 spindles).**

*Write today for complete details to Dept. G*
*Whitin Machine Works, Whitinsville, Mass.*

# Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.



For more information, write direct or use Reader-Service post card.

**Screen and Roller Printers:** After long months of research Arnold, Hoffman has developed an *improved* Ahcovat Soluble Green IB Paste.

* Actual storage conditions and extensive laboratory tests have proved the superior *print paste stability* of this Ahcovat Soluble dye.

Ahcovat Soluble Green IB has excellent brightness and fine working and fastness properties.

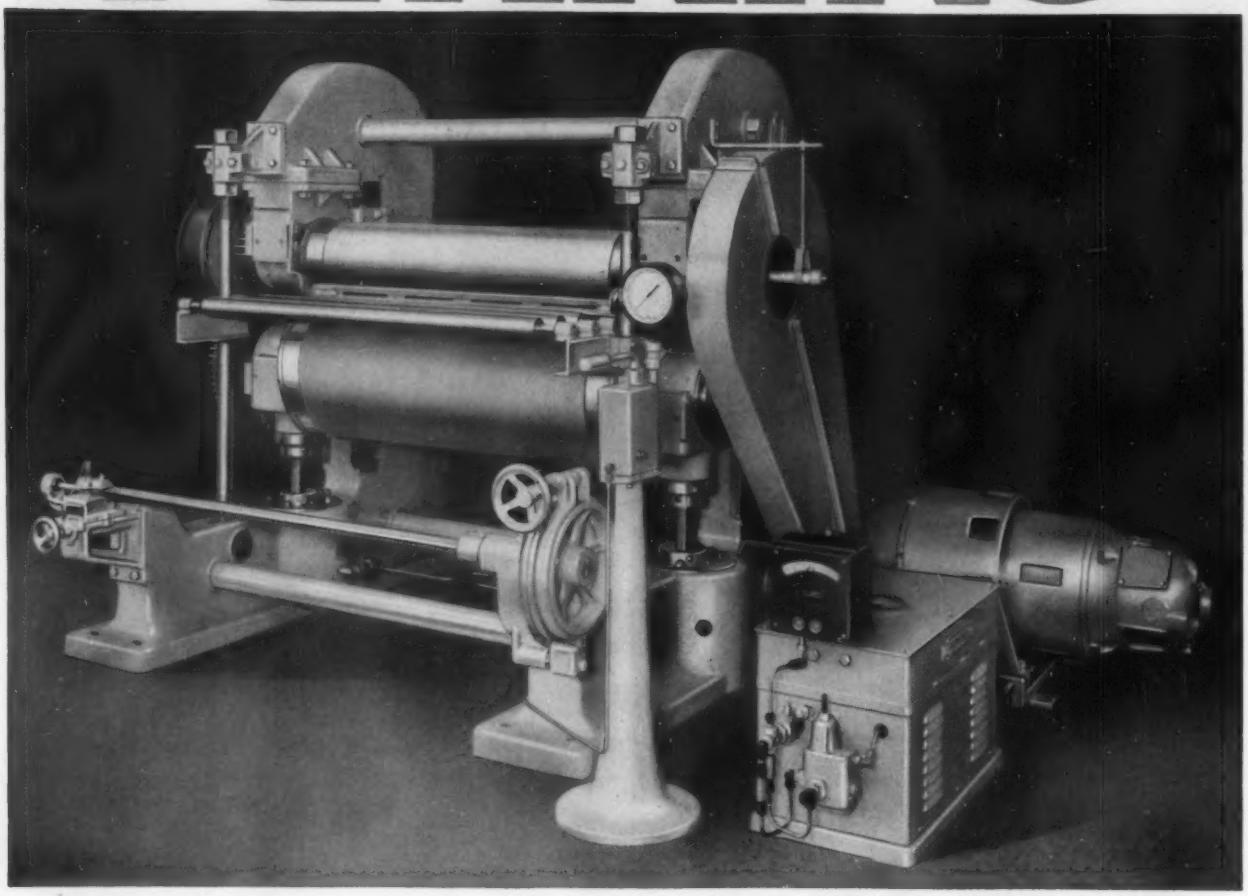
If you prefer a paste you'll prefer Ahcovat Soluble Green IB Paste . . .

***Ask for samples.***

**ARNOLD, HOFFMAN**
**PROVIDENCE — RHODE ISLAND**
*Associated with Imperial Chemical Industries Ltd., London, England*
**ARNOLD, HOFFMAN & CO., INCORPORATED • EST. 1815 • PROVIDENCE, R. I.**
Offices and Sales Service Laboratories: Providence, R. I., Atlanta, Ga., Charlotte, N. C., Teterboro, N. J.

ENGINEERED AND BUILT BY

# PERKINS



*Another High Production Perkins Calender.* This Two-roll Hydraulic Embossing Calender is equipped with plain bearings, top and bottom rolls (can be provided with roller bearings). Gas-heated steel roll — new type Perkins hydraulic power unit with built-in accumulator. Furnished for pressures up to 100 tons maximum pressure.

B. F. PERKINS & SON, INC., Holyoke · Massachusetts

***Southern Sales Office*** · 1609 Liberty Life Bldg. · Charlotte · North Carolina

LARGEST MANUFACTURERS OF CALENDER ROLLS IN THE WORLD

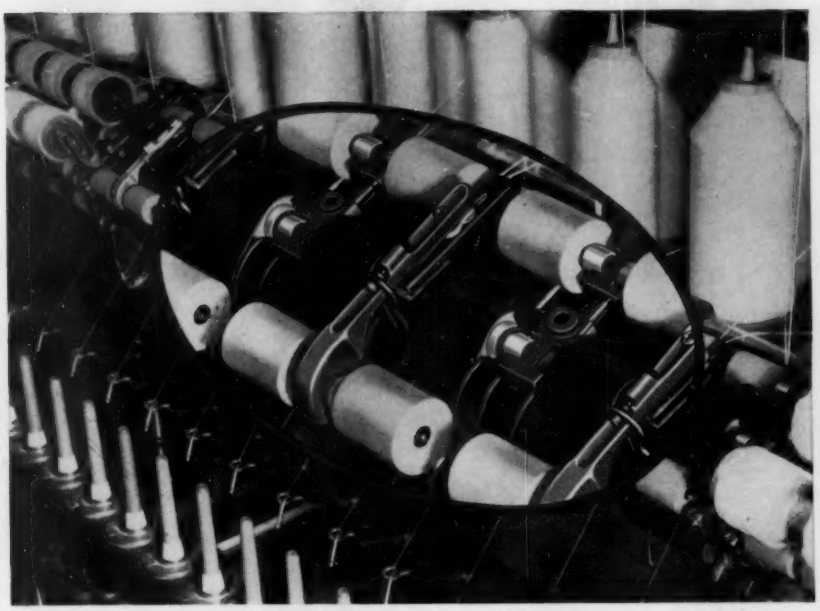
DU PONT

TEXTILE MACHINERY NEWS

PROPERTY AND APPLICATION DATA ON THESE VERSATILE ENGINEERING MATERIALS: "ZYTEL," "ALATHON," "TEFLON," "LUCITE."

NO. 3 — 1955

# Saddle Guides of Filled TEFLON® Need No Oiling, Reduce Roll Damage and Wear



The Dixon Saddle Guides in use in an actual mill. By using Du Pont "Teflon" tetrafluoroethylene resin, the Dixon Corporation, Bristol, Rhode Island, has been able to design a guide that needs no oiling, wears longer and reduces power consumption.

The ball and socket pivotal mounting on this Dixon Saddle Guide does away with the cap bar on the front roll. This new design, possible because of the properties of Du Pont "Teflon" tetrafluoroethylene resin, insures positive alignment and better yarn.

Casablanca spinning assembly with the Dixon Saddle Guide. Bearings on the back roll and back saddles are removable and replaceable. Because they're made of filled "Teflon", friction is lower and wear reduced. (Manufactured by the Dixon Corporation, Bristol, R. I.)

## Less spoilage and yarn wrapping, lower power consumption

The Dixon Corporation's improved Saddle Guide for spinning frames is the result of eight years intensive search for a better, more economical way to weight and guide top rolls. By employing the remarkable self-lubricating properties of Du Pont "Teflon" tetrafluoroethylene resin, Dixon has designed a saddle guide with a ball and socket pivotal mounting that does away with the cap bar on the front roll. This new design insures positive alignment and better yarn.

### Removable Bearings

Removable and replaceable bearings of filled "Teflon" on the back roll and back saddles have greater resistance to wear. "Teflon" also has an extremely low coefficient of friction which means about 33% less power is used for the drafting operation. The low coefficient of friction of "Teflon" tetrafluoroethylene resin gives still another advantage—top rolls never need oiling. Thus, there's far less yarn spoilage.

"Teflon" is able to provide another design improvement—the end gudgeons on the top rolls don't revolve. This improvement reduces yarn wrapping considerably. There is practically no picking; costs are further reduced.

### New Design Opportunities

Textile machinery designers and users are increasingly aware of the high potential of Du Pont "Teflon" tetrafluoroethylene resin. Its properties offer new design innovations that were once considered impractical or prohibitively expensive. Perhaps this unique engineering material can help improve your textile machinery operation. Mail the coupon on the back of this page for complete property data on "Teflon".

OVER

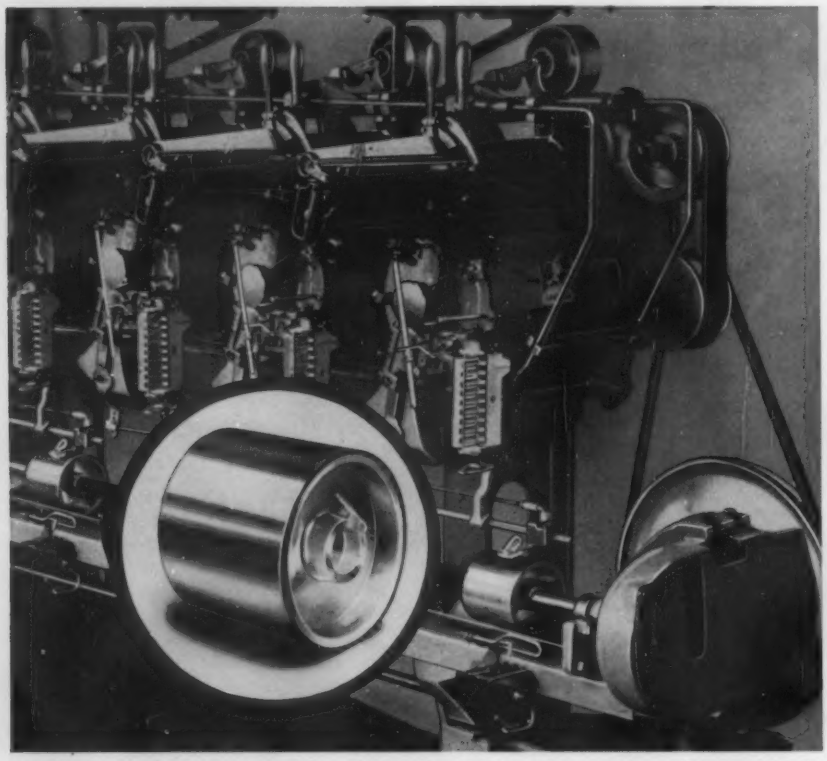
DU PONT
REG. U.S. PAT. OFF.

PROPERTY AND APPLICATION DATA ON THESE VERSATILE ENGINEERING MATERIALS: "ZYTEL," "ALATHON," "TEFLON," "LUCITE."

TEXTILE MACHINERY NEWS

NO. 3 — 1955

# End Caps of LUCITE® Prevent Dirt and Lint Accumulation



A #50 Winding Machine. Its emulsion rolls are protected from accumulations of dust and lint by molded end caps of Du Pont "Lucite" acrylic resin. (Caps manufactured for the Universal Winding Company, Providence, Rhode Island, by Cowan Boyden Corporation, Providence, R. I.)

## "Lucite" is molded economically; resists breakage, discoloration

Emulsion rolls made by the Universal Winding Company have molded end caps of Du Pont "Lucite" acrylic resin to prevent dirt and lint from accumulating inside the rolls and contaminating yarn. These rolls are now far easier to clean—and keep clean.

Why is "Lucite" used? The molder says this engineering material permits him to use an economical 70-second molding cycle. The center hole is reamed to a close tolerance and the angular hole is tapped—both easy operations. The result is an attractive looking part that resists breakage and discoloration and helps make winding more economical.

End cap of Du Pont "Lucite" acrylic resin is rapidly and economically molded, resists breakage and discoloration.

### Can you use "Lucite"?

This application may suggest ways in which Du Pont "Lucite" can be used in your operation. Ease of injection molding, and the ability to be molded into extremely intricate patterns give the designer a wide range of flexibility in the use of "Lucite". This versatile engineering material also offers many design possibilities in industrial applications, especially where visibility of operations is of importance. Complete property and application data on "Lucite" acrylic resin is available on request. Simply fill out and mail the coupon on this page.

## Investigate Du Pont engineering materials in your product development programs

One of the family of these versatile engineering materials is often a key factor in product improvement or new product design. The wide range of properties available with "Alathon"* polyethylene resin, "Lucite"* acrylic resin, "Teflon"* tetrafluoroethylene resin, and "Zytel"† nylon resin are helping solve industrial design problems.

**NEED MORE INFORMATION?** Clip the coupon for additional data on the properties and applications of these Du Pont engineering materials.

**E. I. DU PONT DE NEMOURS & CO. (Inc.) POLYCHEMICALS DEPARTMENT**
**Room 186, Du Pont Building, Wilmington 98, Delaware**
*In Canada: Du Pont Company of Canada Ltd., P. O. Box 660, Montreal, Quebec*

*Please send me more information on the Du Pont engineering materials checked:* ☐ *"Zytel";* ☐ *"Alathon";* ☐ *"Teflon";* ☐ *"Lucite". I am interested in evaluating these materials for:* _____

NAME _____ POSITION _____

COMPANY _____

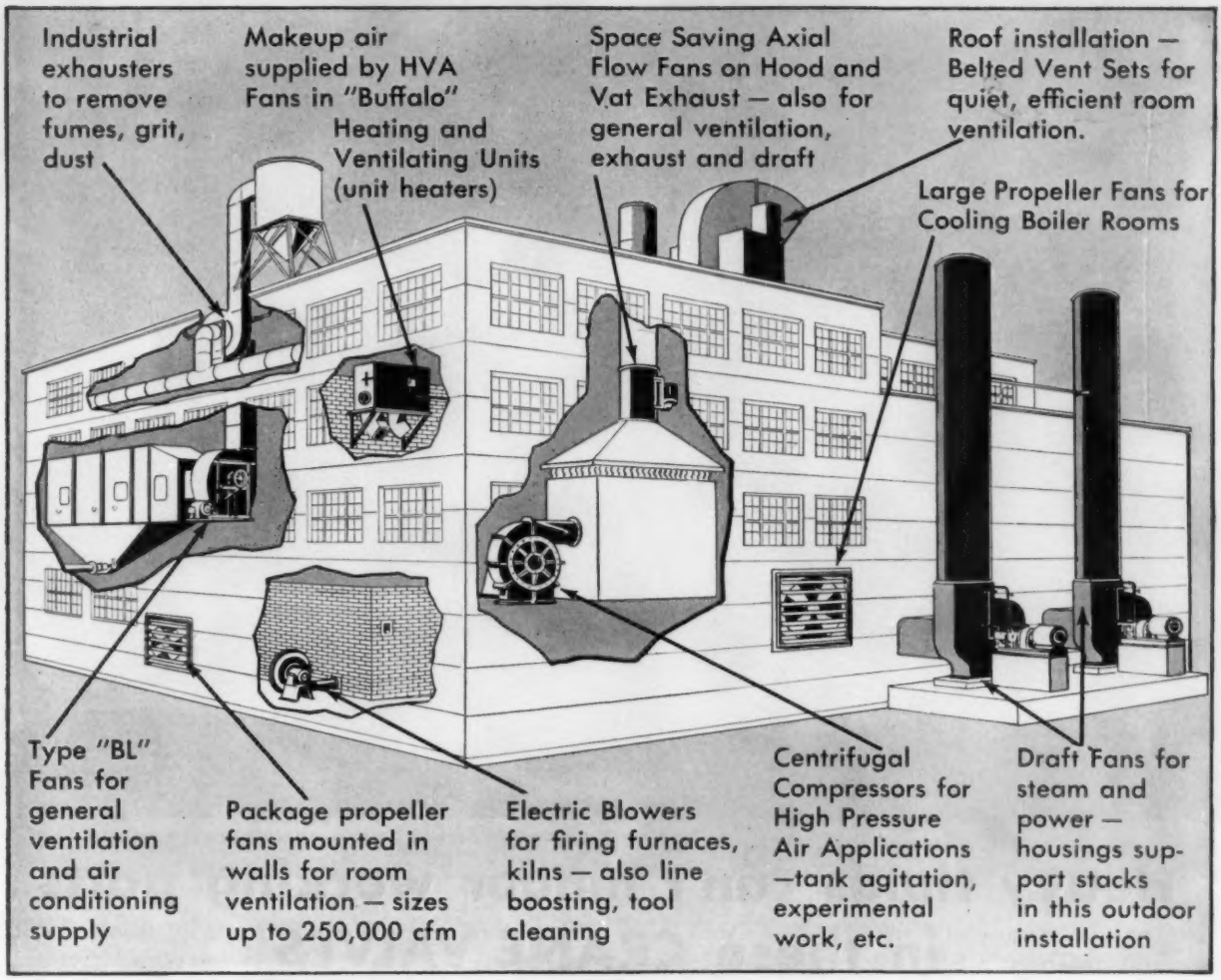
STREET _____

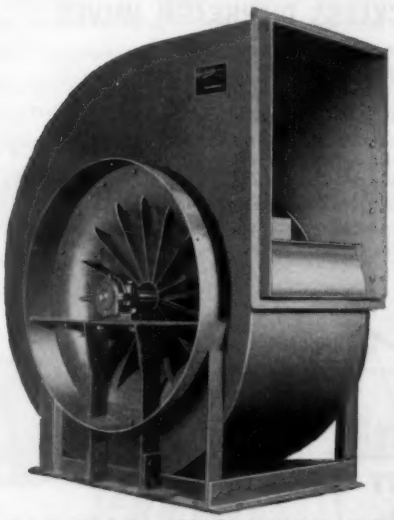
CITY _____ STATE _____

TYPE OF BUSINESS _____

*"Alathon", "Lucite", "Teflon" are registered trade-marks of E. I. du Pont de Nemours & Co. (Inc.)
†"Zytel" is the new trade-mark for Du Pont nylon resin.

# AIR . . . BREATH-OF-LIFE FOR THE PLANT!


Industrial exhausters to remove fumes, grit, dust
Makeup air supplied by HVA Fans in "Buffalo" Heating and Ventilating Units (unit heaters)
Space Saving Axial Flow Fans on Hood and Vat Exhaust — also for general ventilation, exhaust and draft
Roof installation — Belted Vent Sets for quiet, efficient room ventilation.
Large Propeller Fans for Cooling Boiler Rooms
Type "BL" Fans for general ventilation and air conditioning supply
Package propeller fans mounted in walls for room ventilation — sizes up to 250,000 cfm
Electric Blowers for firing furnaces, kilns — also line boosting, tool cleaning
Centrifugal Compressors for High Pressure Air Applications —tank agitation, experimental work, etc.
Draft Fans for steam and power — housings support stacks in this outdoor installation



The "Buffalo" Type "BL" Limit-Load Ventilating Fan. Specified for many of the industry's largest ventilating and air conditioning jobs, it is the finest fan we have ever offered. Available in closely graduated capacities from 1000 cfm to 500,000 cfm. Write for Bulletin F-100 for full details.

## . . . supplied EFFICIENTLY by "Buffalo" FANS

### INDUSTRY'S CHOICE FOR 78 YEARS

Whatever your product, air goes into it! The air that makes workers more alert and productive — the air that gives you efficient combustion — the air that's used to remove undesirable substances — the air you warm with or cool with — is your plant's breath-of-life.

Above are just a few of the ways in which "Buffalo" Fans help a plant to breathe. There's a fan in this complete line for any job you may have for air. And it's well to remember that all makes of fans are *not* alike. There's a great deal to the science of making a fan that will give you permanently good performance. From our 78 years, we know what's practical and what isn't — what must go into a fan. We call it the "Q" Factor* — the "extra" that makes the user glad he specified "Buffalo".

**The "Q" Factor — the built-in Quality which provides trouble-free satisfaction and long life.*

"Buffalo"

**BUFFALO FORGE COMPANY**

184 MORTIMER ST. BUFFALO, N. Y.

*Publishers of "FAN ENGINEERING" Handbook*

Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

*Sales Representatives in all Principal Cities*

**VENTILATING AIR CLEANING AIR TEMPERING INDUCED DRAFT EXHAUSTING FORCED DRAFT COOLING HEATING PRESSURE BLOWING**

# Heavy fluids can't hinder working parts in these CRANE VALVES

**THIS CASE HISTORY** tells how the United States Playing Card Co., Cincinnati, solved—with Crane Diaphragm Valves—a costly problem of piping heavy enamels for paper coating.

The trouble was in the plug cocks and conventional gate valves formerly used in the enamel lines. During normal shutdowns the heavy liquid would build up on seating surfaces, in stem threads and working parts. The cocks and gates would "freeze up" . . . were hard to operate . . . couldn't be shut tight. The condition hampered production . . . made floors messy and dangerous . . . pushed maintenance costs sky-high.

Replacing with Crane Packless Diaphragm Valves stopped the trouble completely. Their sealed-to-fluid bonnet and pliable neoprene disc insert did the trick. After more than 4 years, all 48 Crane valves installed—with no maintenance whatsoever—are still seating tight . . . still operating freely and smoothly.

## CRANE PACKLESS DIAPHRAGM VALVES

Working parts are safely out of contact with line fluid. The diaphragm seals the bonnet—that's all it does, giving it longer life. The independent disc with pliable insert seats tightly on foreign particles or seat deposits . . . and controls fluid, even should diaphragm fail. See your Crane Catalog or Crane Representative for wide selection of body, bonnet, and trim materials in these valves for countless uses.

# CRANE CO.

*General Offices:* 836 S. Michigan Ave., Chicago 5, Illinois
*Branches and Wholesalers Serving All Industrial Areas*

**VALVES • FITTINGS • PIPE • KITCHENS • PLUMBING • HEATING**

**CRANE'S FIRST CENTURY . . . 1855-1955**



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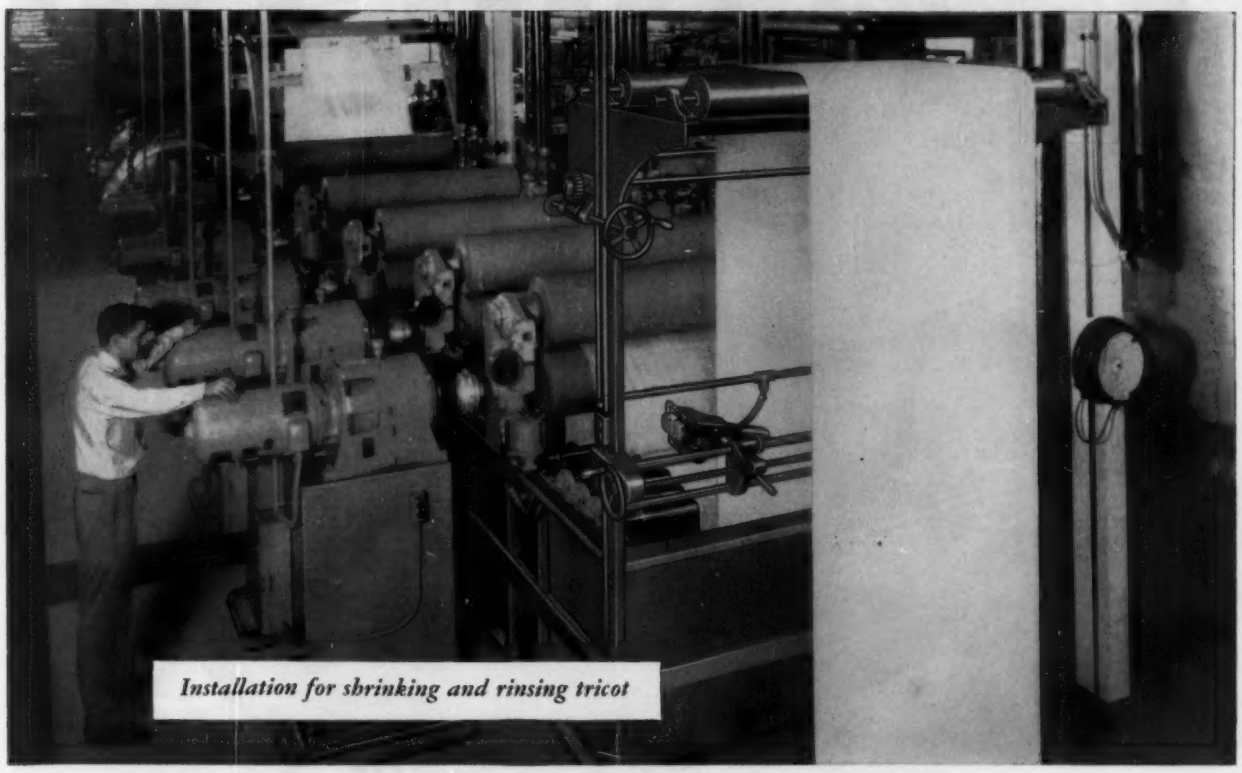
# WIESNER-RAPP

## OPEN-WIDTH

# Treating Machines



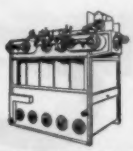
*Installation for shrinking and rinsing tricot*

The Wiesner-Rapp Open-Width Treating Machine is a sturdy, reliable, and versatile machine which has a wide usage throughout the entire textile industry in the treating of synthetic and natural fibres. It can be used for soaping, rinsing, washing, bleaching, shrinking, acidifying and neutralizing, or any combination of these. It is a completely flexible machine, finding application in many different mills and at many different steps in their processes.

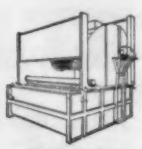
The Wiesner-Rapp Engineering Department designs Treating Machines to fit a customer's specifications. They can be furnished with varying numbers and sizes of stainless steel tubs, each tub compartmented according to the type of treatment. Multiple immersion rolls are stainless steel. All squeeze rolls can be rubber covered, or one of each pair can be stainless steel covered. Pressure on the squeeze rolls is applied pneumatically and is indicated on dynamometers which are located on each side of the rolls. Squeeze roll diameters and face widths are designed according to requirements. Variable speed drives, with easily accessible controls, are furnished on all Wiesner-Rapp Open-Width Treating Machines. Tensioner for entrance end and plaiter rolls at exit also are available.

*The Wiesner-Rapp Technical Staff will be happy to discuss treating machines with you in detail.*

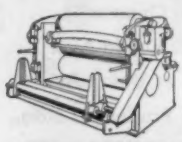
**OTHER WIESNER-RAPP MACHINES**



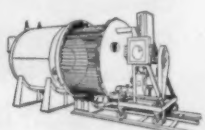
MULTI-STAGE WASHER



DYE BECK



3-ROLL PADDER



BAROTOR

THE WIESNER-RAPP CO., INC.

1617 SENECA ST., BUFFALO 10, N. Y.

*Manufacturers of Wet-Finishing and Dyeing Machinery*



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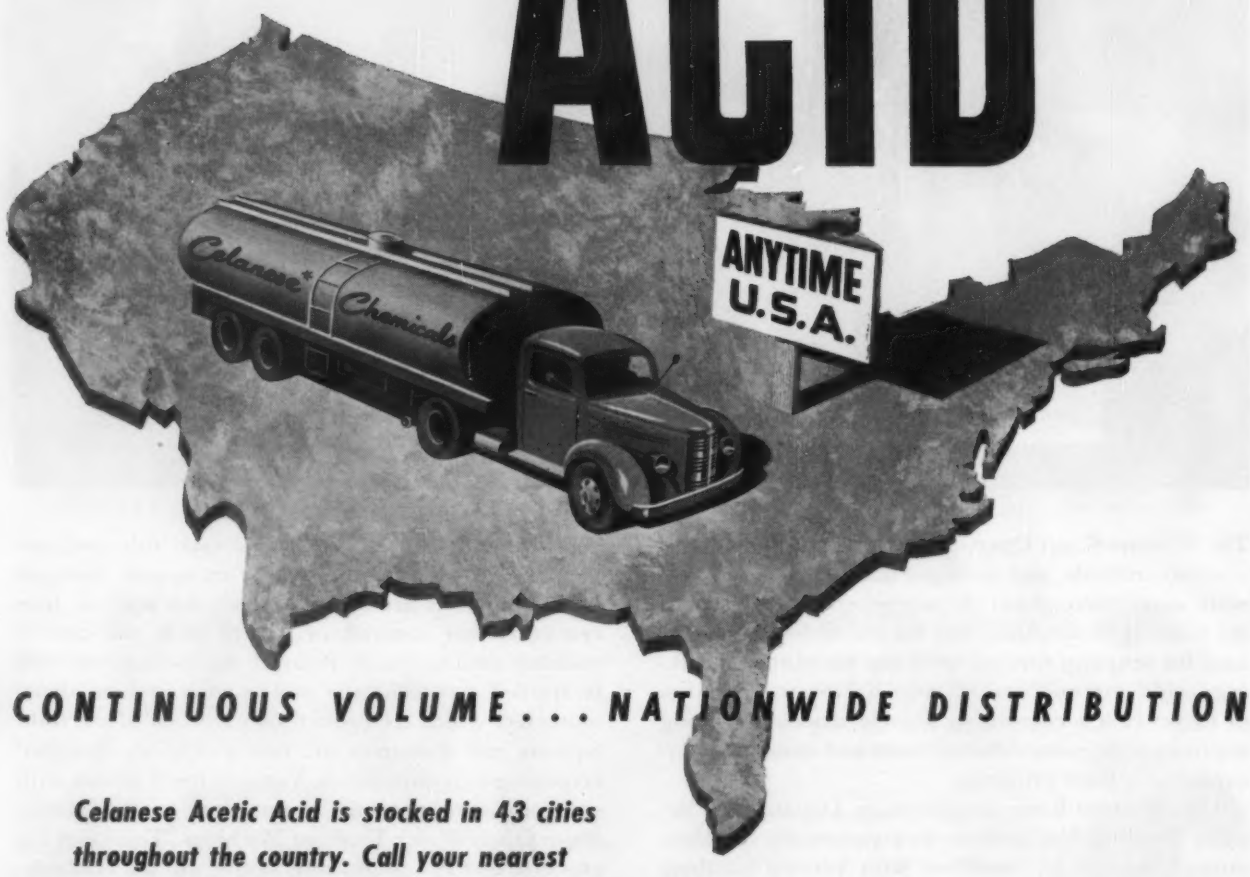
# Celanese ACETIC ACID




**CONTINUOUS VOLUME . . . NATIONWIDE DISTRIBUTION**

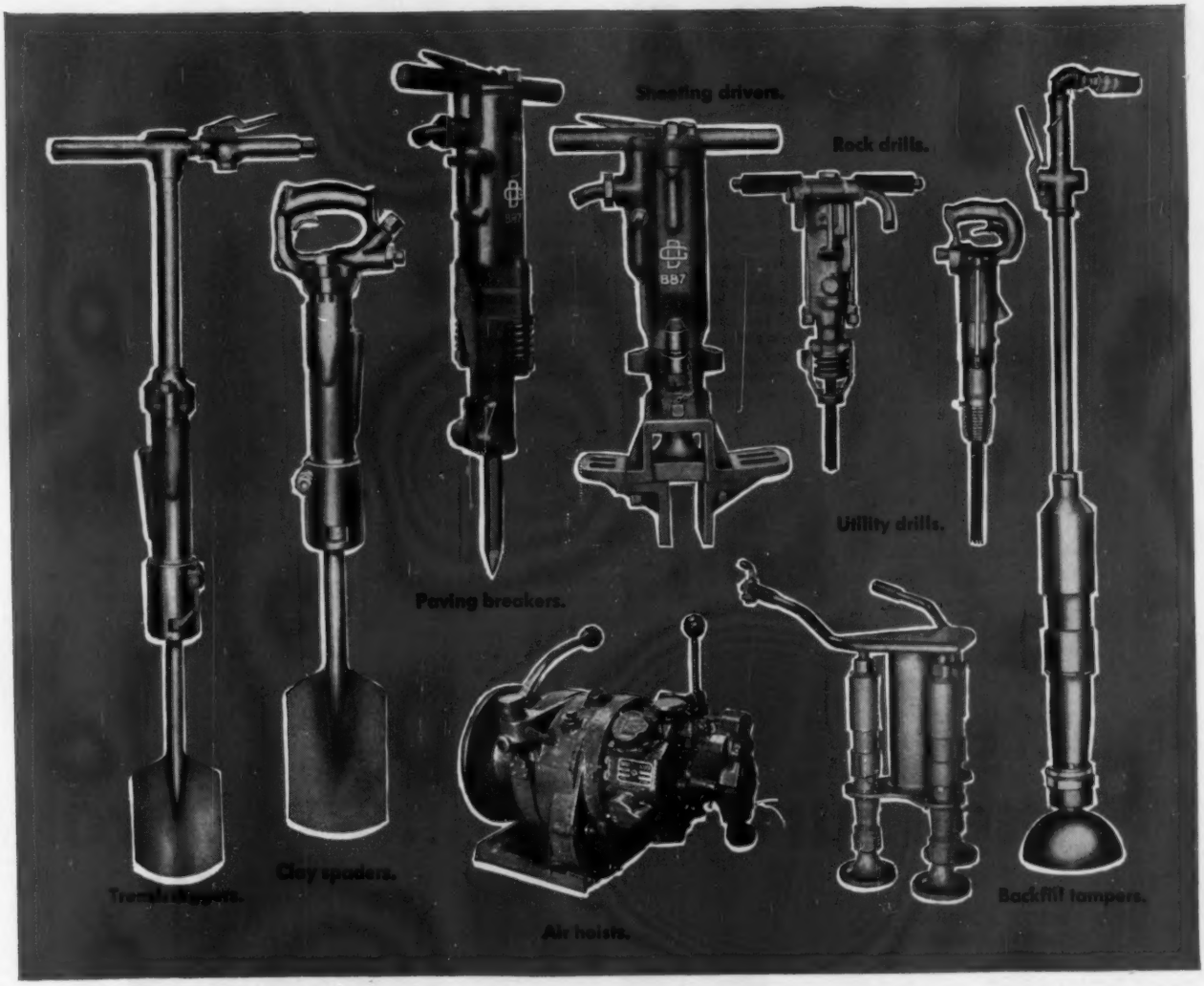
***Celanese Acetic Acid is stocked in 43 cities throughout the country. Call your nearest Celanese District Sales Representative for fast delivery:***

Charlotte, N. C., P. O. Box 1414.....Franklin 7-7411
Chicago, Ill., 101 East Ontario St.....MIchigan 2-6166
Cleveland, Ohio, 1422 Euclid Ave.....Cherry 1-0900
Framingham, Mass., 24 Union Ave.....TRinity 3-7413
Houston, Texas, 1301 Prudential Bldg.....Justin 2898
Los Angeles, Calif., 3460 Wilshire Blvd..Dunkirk 1-3073
St. Louis, Mo., 3615 Olive St.....Jefferson 5-5022
San Francisco, Calif., 607 Market St....Douglas 2-3273

Celanese* CHEMICALS

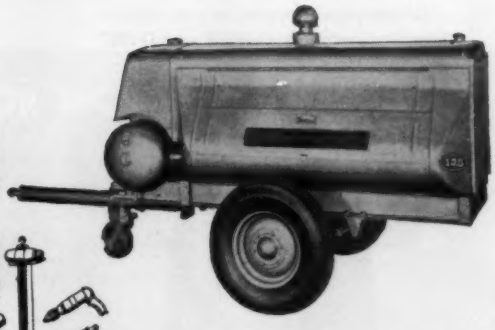
*Reg. U.S. Pat. Off.

**CELANESE CORPORATION OF AMERICA, CHEMICAL DIVISION, 180 MADISON AVE., NEW YORK 16, N. Y.**




# Gardner-Denver Maintenance Tools make plant housekeeping easier

Good industrial maintenance often calls for concrete demolition, masonry drilling, heavy lifting, tough digging, firm backfilling — jobs done quickly and easily by the crew that's equipped with these costsaving Gardner-Denver Air Tools —



The Gardner-Denver WH-125 — puts compressed air where you need it for operating these tools — for cleaning — for paint spraying.

**Write for descriptive bulletin.**

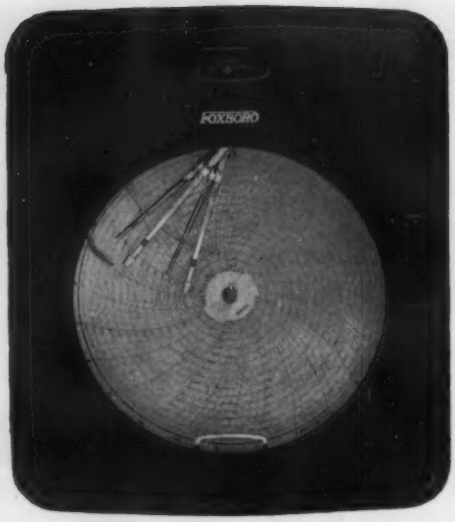
## GARDNER-DENVER

THE QUALITY LEADER IN COMPRESSORS, PUMPS AND ROCK DRILLS FOR CONSTRUCTION, MINING, PETROLEUM AND GENERAL INDUSTRY

**Gardner-Denver Company, Quincy, Illinois**

**In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Avenue, Toronto 16, Ontario**

Atlanta, Ga.; Birmingham, Ala.; Knoxville, Tenn.; Washington, D. C.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; New Orleans, La.; Louisville, Ky.




**WET AND DRY BULB INSTRUMENTS**

These Foxboro instruments give separate wet and dry bulb records on the same chart . . . in dry bulb ranges from 32°F. to 212°F. They are exceptionally accurate and stable. Bulbs can be placed up to 200 feet from the instrument. Available as recorders, or air operated (Model 40) and electric (Rotax) controllers, including multi-zone and time-humidity controllers.

**DIRECT-READING DEW POINT INSTRUMENTS**

Foxboro recently introduced the first simple, continuous dew point measuring instruments for industrial use. Their patented humidity sensitive element, the "Dewcel", requires no water box or moving air. Accuracy is unimpaired by dust or lint. Foxboro recording and controlling instruments, used with the "Dewcel", give direct readings from —50°F. to 142°F. dewpoint, at dry bulb temperatures up to 220°F. Readings easily converted to absolute or relative humidity. Foxboro instruments for dew point include liquid expansion type and electronic type recorders and controllers . . . with either pneumatic or electric control action. The Multi-Record Dynalog* for dew point provides up to 6 records on a single round chart.

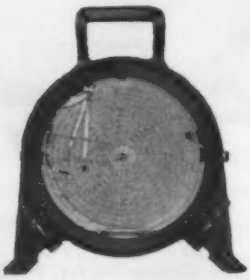
*Reg. U. S. Pat. Off.*

# better measurement and control of humidity

**DIRECT-READING RELATIVE HUMIDITY INSTRUMENTS**

Direct-reading relative humidity hygroscopic instruments are designed to operate in temperatures up to 140°F. They are available for recording (including the portable model shown here), and controlling (pneumatic M-40, or electric *Rotax*, operated). Sensitive, accurate, reliable.

Combination temperature and relative humidity recorders (0-100°F and 0-100° R.H.) are shipped from stock.



Ever since it introduced the first successful long-distance wet-and-dry bulb psychrometer, Foxboro has pioneered in the development of new and improved methods for the measurement and control of humidity.

In its knowledge of textile process requirements, and its complete line of better-engineered instruments, there's more than likely the ideal solution to your own problem.

Why not write for complete information, or talk it over with a Foxboro Engineer, now? **The Foxboro Company, 846 Neponset Ave., Foxboro, Mass., U. S. A.**

**FOXBORO** REG. U. S. PAT. OFF. **HUMIDITY INSTRUMENTS**

FACTORIES IN THE UNITED STATES, CANADA AND ENGLAND

## Can you use a compact drive with infinitely variable speeds?

HERE IT IS

# Cleveland Speed Variator

*NOW available in 9 sizes, ranging from one-half to 10 horsepower at 1750 input RPM.*

INFINITELY variable, stepless speeds within a 9:1 range (from ⅓ to 3 times the input speed).

Smooth, instant change of speed by simple manual adjustment or by remote control devices, either manual or power operated.

Operating efficiencies—75% to 90%.

Coaxial input and output shafts, rotating in same direction, either clock-wise or counter clock-wise.

Ample bearing support for both input and output shafts to carry overhung pulleys.

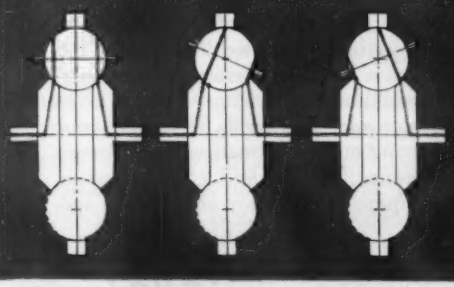
Compact and inherently quiet and smooth running, due to simple construction.

Minimum maintenance and long life, due to absence of belts and other complicated linkage.

Performance proved by prolonged tests in the laboratory and field operation.

These are the outstanding advantages of the Cleveland Speed Variator. It is now ready for service. Immediately applicable to a wide variety of machines and equipment where a dependable variable speed drive is required. For detailed description and specifications, write for Bulletin K-100.

### HOW THE CLEVELAND SPEED VARIATOR WORKS



Power is transmitted from input shaft to output shaft through alloy steel driving balls which are in pressure contact with discs attached to the two shafts.

Relative speeds of the shafts are adjusted by changing the positioning of axles on which the balls rotate (see diagrams, left, and cutaway view, right).

## THE CLEVELAND WORM AND GEAR COMPANY

Speed Variator Division, 3268 East 80th St., Cleveland 4, Ohio

*Sales Representatives in all major industrial markets*



For more information, write direct or use Reader-Service post card.

These stainless steel package dye machines have been in constant service since 1949. They are made of Type 316 stainless. Operating pressures are between 45- and 60-psi.

# Textile mill president lauds stainless dye machines

This is what the president of a large textile mill said recently about stainless steel dye machines installed in his plant in 1949:

*"Stainless steel package dye machines produce 'clean' brilliant colors. Shades are reproduced with exceptional uniformity from batch to batch. Stainless steel is easier to clean and maintain. There is a saving in dyestuff too."*

Wet processing equipment made of Armco Stainless Steels has been giving economical service in textile mills for more than 20 years.

Newest of the special grades of Armco Stainless for textile equipment are the "ELC" types. They are ideal for welded equipment exposed to service temperatures below 800 F.

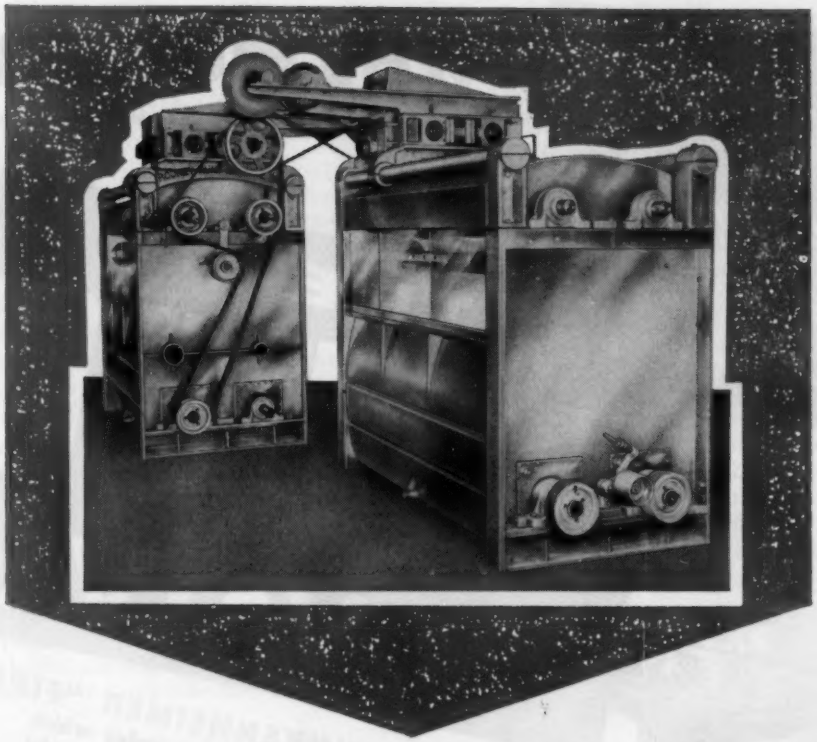
Armco Types 304L and 316L Stainless Steel protect weld areas from intergranular corrosion. Their low carbon content (.03% maximum) prevents harmful carbide precipitation during welding. Cost of the Armco ELC grades is less than corresponding grades stabilized by columbium.

If corrosion alongside the welds is one of your problems, you'll want more information about Armco ELC. Just ask for the "ELC Folder" when you write. Or ask your equipment fabricator about these special steels.

**ARMCO STEEL CORPORATION**
4334 Curtis Street, Middletown, Ohio

ARMCO®

SHEFFIELD STEEL • ARMCO DRAINAGE & METAL PRODUCTS, INC. • THE ARMCO INTERNATIONAL CORPORATION



"Both-end" view of Rodney Hunt Tensitrol Rope Washers ready for shipment.

# The 1955 TENSITROL WASHER!

The basic design of the Tensitrol® Rope Washer is what it was in 1948 . . . a machine for maximum washing efficiency at the high speeds demanded by modern mill operations.

The Tensitrol Rope Washer has become a 1955 model because more than 110 mill owners—using two to 20 units each—have suggested modifications which have been continually tested and continually incorporated in Tensitrol Rope Washers. Note these improvements among many:

- **New spools defy the heaviest fabric to climb out of place.**
- **New spool bushings wear longer, can't freeze to shafts at any time.**
- **A new doffing unit gives positive pull at all speeds without damage.**
- **New top enclosure with slinger-type seals improves protection of bearings and rolls.**
- **New self-aligning face seals on bottom roll shafts reduce friction, save power, reduce maintenance.**
- **Dual rubber squeeze rolls improve extraction and conserve chemicals.**
- **V-belt drives throughout eliminate grease spatter, are virtually noiseless, never break. Under emergency overload, they slip, not strip.**

Tensitrol Rope Washers lead the field today as they did when they first set new standards of washing and saturating efficiency. There are more Tensitrol Washers in use today than all other tension-controlled washers combined. Ask us to send the Rodney Hunt representative in your area if you have washing problems.

RODNEY HUNT®

**RODNEY HUNT MACHINE CO.**
66 MILL STREET, ORANGE, MASSACHUSETTS

QUALITY WET FINISHING EQUIPMENT SINCE 1840


For more information, write direct or use Reader-Service post card.

# THE BIGGEST

*Announcing*

# THE LQ600 VALVE

**ANOTHER LUNKENHEIMER "FIRST"**
**. . . the revolutionary new bronze valve which has broken all existing performance records!**

**LUNKENHEIMER THANKS ALL OF THE LEADING COMPANIES WHO COOPERATED IN THE FOUR-YEAR LQ600 FIELD TESTING PROGRAM**

The LQ600 Valve has been tested for four years in carefully chosen "problem installations" in American industry. *Despite the poor records of previous valves, there was not one single reported case of failure or leakage of an LQ600 Valve!* Here are a few typical records:

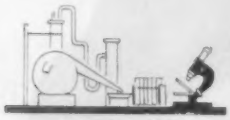
# LUNKEN

THE ONE *Great*



For more information, write direct or use Reader-Service post card.

# BRONZE VALVE NEWS IN 50 YEARS!



This revolutionary bronze globe valve has set completely new performance standards in the most severe service in industry!

LQ600 gives you so much *more* service per dollar that you can't afford to continue using bronze globe valves that require constant repair and replacement!

Valve users, cooperating in a four-year testing program, were unable to find *any* service tough enough to wear out an LQ600 — or cause it to leak, even in the most severe throttling installations! This new valve is an investment — one that pays cash dividends in maintenance savings year after year!

BRINALLOY* SEATS AND DISCS make these remarkable performance records possible. This exclusive new Lunkenheimer alloy is far more resistant to wear and corrosion than 500 Brinell Stainless Steel — even outwears case hardened Stainless Steel exceeding 1000 Brinell! There is no need for renewability. *No LQ600 Valve in four years service has required maintenance.*

OTHER FEATURES — a streamlined new exterior . . . the famous Stemalloy® Stem, which far outlasts any other stem material . . . the cool, easy-to-grip Non-Slip® patented handwheel . . . durable, high-strength bronze in body and bonnet . . . and true back-seating, permitting safe and easy repacking under pressure.

*Patented alloy. Trade Mark, The Lunkenheimer Co.

*For more information, call your local Lunkenheimer Distributor or write The Lunkenheimer Company, Box 360, Cincinnati 14, Ohio.*

LQ600
150 LB. S.P.
300 LB. W.O.G.

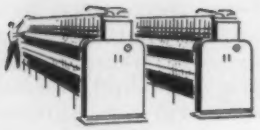
| TYPE OF SERVICE | LIFE OF OTHER VALVES | USER COMMENT |
|---|---|---|
| 125 lb. hose steaming | 2 wks. to 2 mos. | Toughest service, previous valves leaked. |
| Water col. blowdown | 2 mos. | Plug valves couldn't take it. |
| 185 lb. steam blowdown | 1 yr. | Plug valves failed every year. |
| 125 lb. steam blowdown | "Short" | Previous valve leaked every run. |
| 200 lb. steam—water col. blowdown | 2 mos. | Previous valves failed by wiredrawing. |
| Throttling syrup 140°F. | "Short" | Previous valves cut. |
| 150 lb. throttling 380°F. | 6 mos. | Plug valves failed regularly. |
| 100 lb. throttling | 2 wks. to several mos. | Plug valves couldn't hold up. |
| 130 lb. throttling | 8 mos. | Composition seat valves unsatisfactory. |
| 110 lb. throttling steam | 3 wks. to 3 mos. | Three other kinds failed. |
| Scaled hot water line | "Short" | About all makes used—none held up. |
| 125 lb. throttling steam | 6 to 12 mos. | Plug valves failed by wiredrawing. |
| 150 lb. steam—scale present | "Short" | Previous valves broke. |
| 150 lb. throttling steam | 4 to 5 mos. | Other makes failed by wiredrawing. |

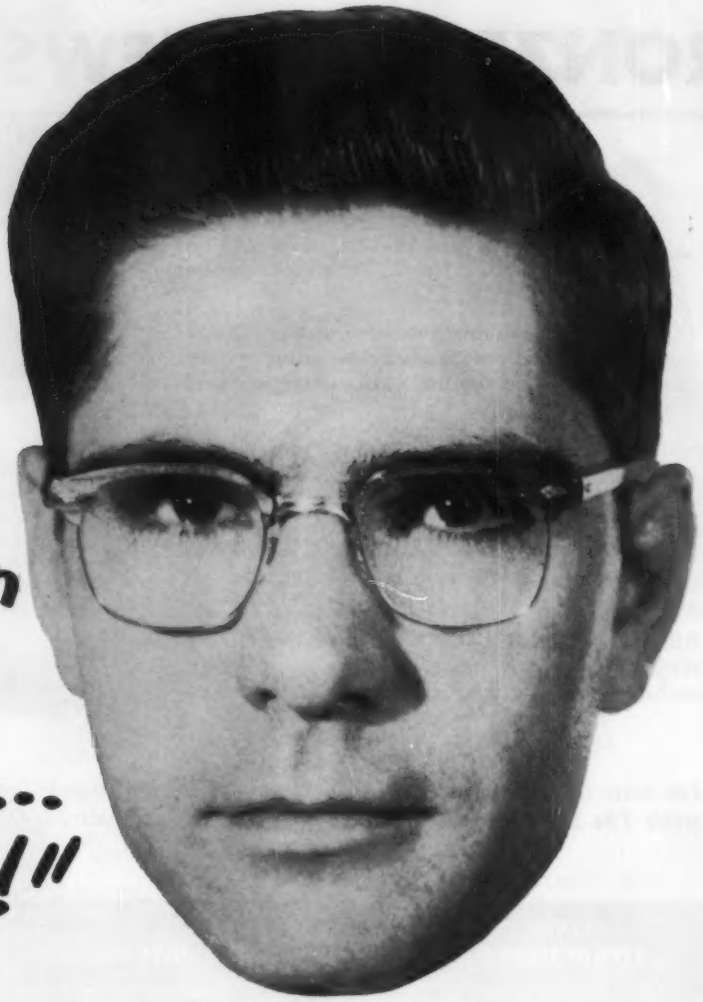
# HEIMER®

BRONZE • IRON
STEEL • PVC

NAME IN VALVES

L-455-4





# "One suggestion cut 'Seconds' to a minimum... ...costs by 1/3!"

A large South Carolina textile mill ran into lubrication trouble in its weave room—a high rate of cloth spoilage caused by leaking oil. The mill superintendent asked Sinclair Representative W. D. Cawley for his recommendations.

## Oil dripped from bearings

Mr. Cawley reports: "The competitive oil being used in their looms was dripping from bearings onto the cloth and the floors. I suggested Sinclair NO-DRIP #15 because it combines a quality base oil for outstanding lubrication, together with a special soap thickening agent that resists leakage and throw-off.

## Problem solved—lubrication costs cut...

"Since this mill has been using Sinclair NO-DRIP #15, seconds due to cloth spoilage have been cut to a minimum. What's more, lubrication costs have been cut by one-third!"

Why not let a Sinclair Lubrication Engineer help solve your lubrication problem. *There's no obligation.* Contact your local Sinclair office or write Sinclair Refining Company, Technical Service Division, 600 Fifth Avenue, New York 20, N.Y.

**SINCLAIR LUBRICANTS**

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NEW YORK 18, N.Y.

WEST WARREN, MASS.
PHONE: WARREN 41

April 2, 1955.

REPLY TO West Warren, Mass.

Mr. Harry G. Olson,
Textile Sales Manager.
Taylor Instrument Companies
Rochester, New York

Dear Mr. Olson:

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Dyeing of synthetics is an extremely difficult operation and there is no question but that without TAYLOR controls we could not otherwise maintain the accurate and precise control which is so necessary in our operations.

You may rest assured that TAYLOR controls will remain a number one necessity to our business in the years ahead.

Very truly yours,

Joseph Persky, President.

THERE are at least 25 different ways in which Taylor controls can help cut costs and maintain quality in the Textile industry. Your Taylor Field Engineer can advise you or, if you prefer, write direct to Taylor Instrument Companies, Rochester, N. Y., or Toronto, Canada.

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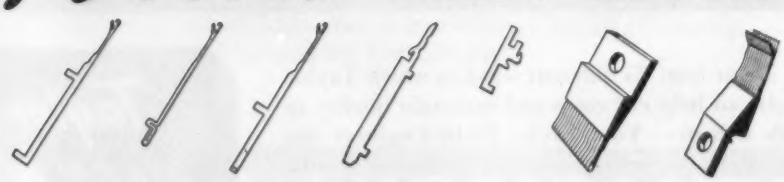
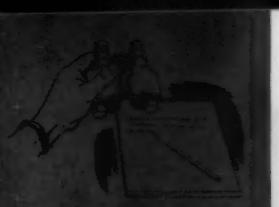


*Wire Products Division*

**TEXTILE MACHINE WORKS, READING, PENNA.**



Textile World

The LONG-RANGE VIEW

# How's 1955 Business?

About this time every year, business observers begin to put together a picture of how business has been and what it looks like for the rest of the year. We now have some definite information on two of the most important factors in the business picture: consumer spending and business spending. They both indicate that, without unpredictable emergencies, 1955 will add up to a good year.

The two most important factors in the consumer picture in the early months of the year were: (a) consumers were earning more money than in the late months of 1954, and (b) they were spending a greater share of their earnings.

In the first quarter of 1955, disposable personal income was at an annual rate $5-billion above the third quarter of 1954 ($258-billion against $253-billion); and the earning rate was still rising. At the same time, people were saving a smaller share of their income: 7% this year, compared with 8% last year.

The result was that goods were moving to consumers at a fast clip: $15-billion worth a month. That is 10% above the same period last year and 3% above the last quarter of 1954. Soft-goods sales for the first quarter were about 6 to 7% above the same period last year.

### What About the Rest of 1955?

Although nothing reflects consumer confidence so much as actual spending, consumer attitudes checked in a recent survey by the Michigan Research Center indicate that people consider this a good time to buy. Consumers expect good times for the rest of the year and in general expect to earn and spend more money. Indications seem to be that sales of soft goods and consumer durable goods will continue high, while there may be some let-off in housing and automobile sales.

The annual McGraw-Hill survey of business plans for capital spending shows that business firms are as optimistic as consumers. U. S. manufacturing companies expect to spend 3% more this year than last year and expect sales to be 7% above last year. Textile mills expect to spend 5% more this year than last (or about $349-million) and expect sales to be up about 8% over 1954.

So the gain in activity in the textile industry is running ahead of that of manufacturing plants in general. Although the reference point, 1954, was a bad year for textiles, it is still comforting to know that the industry is springing back to a more-healthy state.

### Mills' Stake in Consumers

Capital spending by business firms, of course, is one of the main legs of the U. S. economy; but the dollars represented there are not a direct target for mills to shoot at for business. Consumer spending is another matter. That $15-billion a month is a fabulously rich plum for mills to try and pluck.

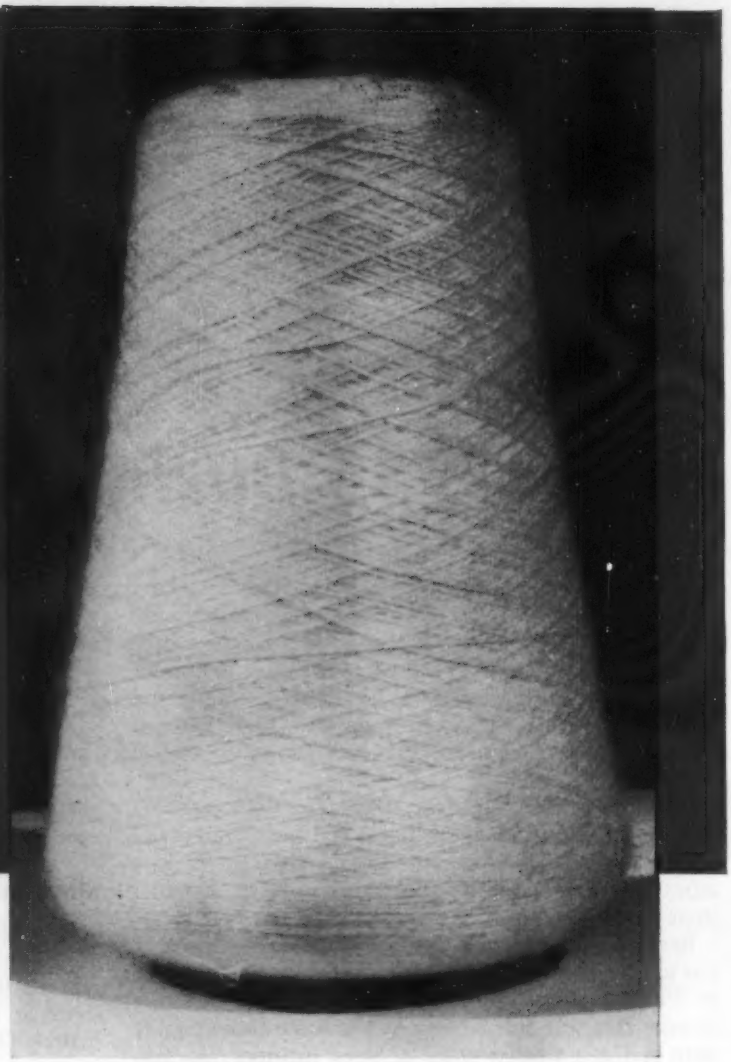
We are well aware how ill-informed many key mill men are about their stake in the consumer market. It may seem farfetched to a manufacturer of industrial fabrics, for example, or to a card-room overseer in a cotton-yarn mill to talk about consumer spending. The truth is, though, that these two gentlemen work full time or part time and make a profit or lose money in almost direct proportion to what consumers decide to do with that $15-billion a month. If people buy refrigerators, TV sets, or dish washers, we sell no textiles. If they buy clothes, shoes, automobiles, or houses to be furnished, textile sales zoom.

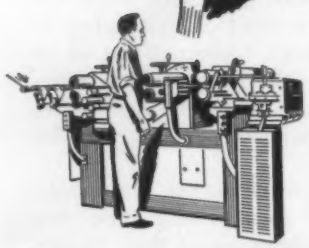
The improved business we are having this year should be an encouragement to mill men to keep their eyes on consumers. The more we learn about their buying habits and impluses, the better prepared we are to do something about bad business.

O. M. Thomas

# *Yes...*

## It's Turbo Processed High-Bulk Yarn





**. . . The finest, softest high-bulk yarn that ever a woman brushed against her cheek . . . and it started as tow on a Turbo Stapler.**

What the Turbo Stapler does for synthetic fibers is practically magic. Take Orlon*, for instance. Incorporating the Perlok Process, the Stapler heat-stretches and breaks the tow into random-length staple (with no co-terminal fibers). Then it crimps them into the kind of sliver that makes premium yarns.

It's a mill-proved process that offers four ways to profit. *FIRST,* there's less capital investment — doubling and drafting operations are drastically cut. *SECOND,* there's versatility — a Stapler can process any synthetic tow. The sliver can be tailored to meet current demand — choice of fiber, denier, staple length and crimp. *THIRD,* there's quality — Stapler sliver spins into yarns of surpassing evenness and hand. There is uniform high quality from lot to lot. *FOURTH,* there's the machine itself — simple in design and operation, with all parts readily accessible, and requiring little daily maintenance.

These are some of the facts. You can learn more at Turbo — in your plant — or in a Turbo-equipped mill. Write or call today.

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**LANSDALE, PENNA., U.S.A.**

*Makers of Precision Heat and Steam Setting Machines, Crimpers and Tow processing Equipment*

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SINCE 1929

*Reg. DuPont T. M.

*FINANCIAL AID TO HIGHER EDUCATION*

# Business Help for Our Colleges A Job for All Business Firms

**IN** recent months, individual business firms have announced the adoption of a variety of plans, both imposing and ingenious, for financial aid to higher education in the United States. In doing so, they have taken a lead in dealing with a problem of transcendent importance both to the business community and to our nation as a whole.

Previous editorials in this special series have shown that:

1. Our colleges and universities, and particularly the independent, privately endowed institutions, are in grave financial difficulties.

2. These difficulties promise to become much more acute in the years immediately ahead unless extraordinary steps are taken to relieve them.

3. A financially crippled system of higher education is a major national menace.

**If, however, the business community is to play an adequate part in helping our colleges and universities financially, the plans adopted by business firms thus far constitute merely a beginning and a set of guide posts. What is required is a general movement on the part of business firms to go to the financial aid of higher education.** Such a movement would involve a myriad of individual company plans which, in the nature of the case, cannot be expected to bring great renown or publicity to their sponsors.

## Rescue Operation Is Feasible

For the business community as a whole it is feasible to make a major and possibly a decisive contribution to putting our colleges and universities back on their feet financially. One percent of business profits before taxes would do it. In 1954 business profits before taxes were about $35 billion. If one percent of these profits, or $350 million, were contributed to our independent, privately endowed colleges and universities it would enable these institutions (1) to increase the salaries they pay by $200 million a year, and (2) to provide $150 million more for modernization and maintenance of their establishments. In the opinion of competent authorities, this would put these institutions in relatively good working order financially, a process to which a matching grant of $50 million by the Ford Foundation for the improvement of faculty salaries will make a large contribution. It would add about one-fourth to their present annual outlay of about $1.4 billion.

Such a contribution from business would not meet the needs of the independent institutions for new buildings and equipment required to accommodate the great increase in college enrollment anticipated in the years immediately ahead. Neither would it relieve the financial problems of our tax-supported colleges and universities. As a group these institutions have fared better financially in recent years than the

independent institutions. But they also face grave financial problems, particularly in the provision of adequate faculty salaries. It would be far simpler, however, to solve the financial problems of the tax-supported institutions if the independent colleges and universities were back on their feet financially.

## One Dollar Does Work of Two

The federal government exempts 5 percent of business profits from the tax imposed upon them if the 5 percent is devoted to religious, charitable or educational purposes. (Most profits are taxed 52 percent.) A contribution of one percent of business profits to higher educational institutions would exhaust only one-fifth of this allowance. It would bring to about two percent the total share of business profits going to both educational and charitable purposes.

In 1953, business firms contributed about $400 million, or slightly more than one percent of profits before taxes to educational and charitable purposes of all kinds. Of this total about $75 million went to educational institutions, mostly colleges and universities.

For some companies it is feasible to contribute more than the average contributed by business generally. Indeed, some companies not only utilize their full 5 percent of tax-deductible funds for charitable and educational purposes but go beyond it. For other companies in financial difficulties no contribution at all is possible.

If, however, those business firms for which it is financially feasible contributed one percent of their profits before taxes to our colleges and universities, the problem of adequate support for the crucially important business of higher education would be far along the way to successful solution. **In 1954 a contribution of one percent of their profits before taxes, or about $350 million, would have reduced business profits after taxes by only about half that amount. This would have meant a reduction of about $175 million, out of a total of about $17.8 billion of profits after taxes.**

Attractive plans to channel financial aid from business to higher education have been abundantly demonstrated recently. These plans, for the most part the creation of large corporations, have included not only a broad array of scholarship grants, but such ingenious arrangements as that by which a company matches with its funds the gifts its employees make to the colleges of which they are alumni.

A full array of these plans, some of which were discussed in an earlier editorial in this series, has been prepared by The Council for Financial Aid to Education (6 East 45th Street, New York City 17) and is available for the asking. Also, colleges and universities have established in most states and regions cooperative associations to help business help them. The Commision on Colleges and Industry (912 Kahn Building, Indianapolis 4, Indiana) distributes a directory of these associations. And, of course, the colleges themselves are always eager to discuss their financial problems with business people and suggest constructive solutions.

## Only Small Start Made

The plans for business aid to education which have recently attracted national attention constitute the conspicuous sort of leadership which it is the privilege and opportunity of our great corporations to provide. But the job is too large to be handled by a small number of business firms, no matter how bold or ingenious their programs.

**To put our colleges and universities back on a firm footing financially the help of the great rank and file of business corporations is required. All of them, large and small, have a crucial stake in seeing that this job is done. The future of America will be decisively shaped by what happens in and to our college classrooms.**

*This message is one of a series prepared by the McGraw-Hill Department of Economics to help increase public knowledge and understanding of important nationwide developments that are of particular concern to the business and professional community served by our industrial and technical publications.*

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Donald C. McGraw

PRESIDENT

McGRAW-HILL PUBLISHING COMPANY, INC.

Textile World
June, 1955
Vol. 105, No. 6

# When a Mill Shuts Down—
# What Happens to Workers?

**Ghost textile mills now dot certain areas of the U. S. In New England alone, 50,000 to 60,000 textile jobs have vanished.**

**There have been a lot of whistling in the dark and a lot of comfortable thinking and talking about displaced textile workers easily finding new jobs. In the growing American economy, it seems inconceivable to many that the loss of jobs can be very serious or can have dire consequences to individuals. All the workers have to do, some people think, is go out and get new jobs.**

- **But where?**
- **What sort of work?** • **At what kind of pay?**
- **How soon?** • **And what about old folks?**

**Now, for the first time, answers to these questions are available.**

By **WILLIAM G. ASHMORE,** Associate Editor, TEXTILE WORLD

*Data taken from "Inter-Industry Labor Mobility: The Case of the Displaced Textile Worker," by William H. Miernyk, director of the Bureau of Business and Economic Research, Northeastern University, Boston, Mass.*

THOUSANDS OF TEXTILE WORKERS have lost their jobs since the end of World War II. Most of the losses occurred in New England and the Middle-Atlantic States as a result of migration to the South.

What has become of the displaced textile workers?

Newspapers have reported optimistically from time to time that the displaced workers are being absorbed into new and diversified industries. The rapidly growing electronics industry in particular is credited with employing many textile workers from liquidated plants.

An Associated Press story that appeared in the *Boston Globe*, Oct. 13, 1953, was headlined: "55,000 Textile Jobs Lost, 400,000 Jobs Created." This story was based on long-range studies published by the Federal Reserve Bank of Boston. Nothing was stated explicitly concerning the actual employment of displaced textile workers by other industries. In fact, more recent reports by the Federal Reserve Bank of Boston point out that the bank's statistical studies can tell nothing about the problems faced by individual workers in finding new jobs.

### Newspaper Stories Looked Good . . .

Other publications that ballyhooed the story that the electronics industry is absorbing great numbers of displaced textile workers included the *Wall Street Journal* and *Time* magazine. Subsequent investigation showed that stories in these publications were based on the experiences of a relatively few individuals who had found work in electronics plants. Actual census figures were not considered.

It is true that in time new and expanding industries will provide many new jobs. The classic example, of course, is the automobile industry that today employs thousands of times as many workers as the livery stables formerly supported. But this transition did not happen overnight. It took time—a long time, more than a generation of workers—to make the transition.

The average textile worker does not have the training and background to prepare himself for a new career in a new industry. His problem is short range. He has got to find work in a hurry, or he and his family suffer. Frequently, he is too old or too ill to pull up stakes and move to a new area.

### . . . But What Happened to the Workers?

Despite all the hullabaloo in the press about displaced textile workers finding new jobs, a survey made between Sept., 1953, and March, 1954, in New England showed that 43% of the 1,700 workers interviewed were unemployed and that 30% had been continuously unemployed since their layoffs. Some of the workers had been continuously unemployed for 2½ years prior to the survey. An additional 12% had withdrawn from the labor force. Some of these workers were past the retirement age, but others had withdrawn because of their inability to find work.

The remaining 45% were employed. Of these, 36% were working in textile mills, not in electronics. It is significant that these displaced textile workers found new textile jobs, despite the fact that textile employment was declining at the time.

Assuming that the sampling was representative, and every effort was made to make it so, a projection indicates that there were at least 30,000 unemployed textile workers in New England at the time of the survey. This figure is based on the 55,000 jobs the Federal Reserve Bank of Boston had reported lost. Incidentally, New England in 1953 employed about 230,000 textile workers.

### It's Bigger Than New England

The problem of the displaced textile worker is not confined to New England. Other Northern states have lost scores of textile mills in recent years. Even the South has had mills to close down or liquidate, occasionally new mills. For example, Kilburn Mill left New England for North Carolina and operated there little more than a year in a brand-new plant before it closed down and liquidated.

New England is the only major textile area in which a comprehensive study of textile unemployment has been made recently. In an effort to investigate the meaning and impact of this unemployment, five case studies were made in typical textile towns and one study was made in a nontextile area where the sole textile mill had been liquidated in recent years.

## Which Workers Are Hurt Most?

In the areas studied and among the 1,700 workers interviewed, 45% were working, 55% were unemployed. The distribution, ages, and attitudes of the employed 45% are extremely interesting from both the sociological and economic viewpoints.

Next to textiles, which employed 36% of those who found new jobs, the service industries provided the greatest source of work. About 15% of the former textile employees were working as janitors, nursemaids, hospital attendants, porters, and the like.

Not more than 7% entered any single type of manufacturing industry. The most important manufacturing employers were: electrical machinery (including electronics), apparel, and shoe and leather. [See table on p. 90.]

### . . . Men Take It Better

Men were more successful than women in finding new jobs. Of the workers surveyed, 58% of the men were employed and only 35% of the women. A larger percentage of women had withdrawn from the labor force, but more women than men were actively seeking work. A larger number of women than men had been continuously unemployed since their original layoff.

### . . . Old Folks Are Lost

Age was definitely a barrier to re-employment. The average ages of the workers surveyed were greater than the average for other industries in the area. More than half the workers who found new jobs after their displacements were under 45. Over 43% of the unemployed, both men and women, were past the age of 56, but it should be noted that this group included a substantial number who had withdrawn from the labor force.

### . . . How Long Unemployed?

More than half the men in the sample who found new jobs were unemployed for two weeks or less, and two-thirds went to work within 10 weeks. Women were unemployed for longer periods. It may have been that the men, as principal family breadwinners, looked harder for work.

But the women who eventually found employment indicated they had continued to look for work until they found it.

### . . . How Do They Find Jobs?

Over 90% of the employed workers found their new jobs through friends and relatives or by applying for work at the gate. Relatively few found work through aid from the unions or employment agencies.

### . . . How Much Do They Earn?

About 64% of the employed workers were earning less than they did in their mill jobs; another 12% reported no change; only 21% reported higher earnings.

Regardless of income, the majority of those who found nontextile jobs indicated a preference for textile work. About half of those employed thought their jobs were less satisfactory than textile work.

### . . . How Many on Relief?

A very small percentage of the unemployed were on relief. About 33% were receiving unemployment compensation; approximately 25% were dependent on income from the husband or wife; 12% were dependent on other relatives. Another 13% received some form of retirement income, including Social Security payments.

### . . . They Won't Leave Home

In each of the cases studied, the geographic boundary of the labor market was found to be quite narrow. At least 58% indicated that they were unwilling to leave the area in which they lived, and many more said that they would have to know a great deal more about any new job before undertaking a move.

## What the Workers Think About It

In general, the displaced workers were not well informed as to local labor-market conditions, according to the survey. Their attitudes and outlooks were heavily colored by their personal experiences. Those who had made a transition to more-satisfactory employment were often inclined to minimize the seriousness of the local employment problem, while those who had been unsuccessful in finding a job often went to the other extreme.

In each case studied, there were some who believed that new industry would move into the area to provide them with jobs and some who doubted that new jobs would come. Many of the latter were skeptical about the willingness of employers to hire former textile workers.

Despite their imperfect knowledge of local labor-market conditions, many of the displaced workers had a better understanding of the immobility of labor than some of the outsiders who implied or explicitly stated that the workers were being absorbed by growth industries.

Textile workers in the various areas studied expressed themselves quite freely. There was a general feeling almost everywhere among displaced workers that employment conditions were bad.

In one area, many of them believed that their company was preparing to move South. In this instance, there was no evidence to support such a belief. Actually, the mill was losing money and the union had refused to allow a reduction in wages. It simply was a matter of curtailing operations or going out of business.

### . . . "Darn Shame"

In another area, according to published financial reports, the mill concerned was operating profitably before it went out of business. A 52-year-old male married worker commented bitterly, "It's a darn shame the mill closed down. There was no reason to close it down because it was making money. What that guy does is buy mills and liquidate them."

### . . . "My Kind of Work Vanished"

Others in this area complained that suitable jobs were hard to find. One 57-year-old married woman said, "The kind of work I did as a textile worker seems almost to have completely vanished. I have been looking for work in some of the garment shops without success, maybe because of inexperience or my age."

### . . . "He's the One"

A worsted mill was taken over by new management a few years before it closed. There was almost complete agreement among the surveyed workers that the mill was in good operating condition at the time it closed. Workers commented:

"They shouldn't have let the new manager in. He's the one that closed the mill up. Everything was going fine until he took over."

"I think if [the former management] still owned the mill, it would be running now. He sold it to [the new management] who just runs a liquidating company."

In the nontextile area, only a few of the displaced workers were critical. Most of them felt that their mill jobs had been highly satisfactory, and they expressed only regret that the mill had been closed.

### . . . "She Thinks About the Mill Every Day"

The daughter of a 57-year old woman who could not speak English expressed her mother's feeling as follows:

"She would like a little job to get out of the house. She talks about the mill every day. It's too bad the mill had to close. She would be the first one in line if it were to open up tomorrow."

The daughter of a 59-year-old married woman said, "the mill equipment is being liquidated; yet I cannot convince my mother that the mill will not reopen."

### . . . "Unions Got too Powerful"

In some areas, there was criticism of the unions. Typical comments in one highly textile area were:

"Unions have forced the mills out with their demands. We old-timers stuck at textiles and now are out of luck since we have no schooling."

"The union became too powerful. The workers got away with murder. I guess when a person invests money they want something for it. Well, the union prevented it by demanding too much."

### . . . "Do-Nothing Politicians"

In still another area, very few workers blamed the loss of jobs on management, and even fewer blamed the unions. They blamed the politicians. A 60-year-old loom-fixer, who had earned $70 per week, stated:

"We have do-nothing politicians. They should look into the reasons why all the mills shut down: all of them, from the Governor on down, are responsible. When they got wind that the mill was going to liquidate, they should have looked right in."

## Communities Can Ease the Shock

The foregoing opinions are only a few of the many expressed by the displaced textile workers who were surveyed. It may be true, as the survey claims, that the average worker was not informed as to the full reasons behind the closing of his individual place of employment. Still, in the aggregate, the workers put their fingers on most of the important causes: competition from other areas, financial manipulation, unions, mismanagement, and politicians.

Textile mills may cease operating in a given area because of the reasons cited by the displaced textile workers, or they may be forced to close down or move because of even broader underlying factors. Finally, shortsighted attitudes of the workers themselves cannot be overlooked. After all, the workers did not have to submit to victimization by the unions.

Regardless of the reason for closing down, students of the industry know that more and more plants are going to disappear from various areas, sometimes practically overnight—as a result of normal business failures, if for no other reasons. Usually, there is plenty of warning before a textile mill closes. Often, such a business misfortune can upset the economic and personal life of a large segment of a community. To ease the shock of a shutdown, communities can pitch in and help relieve both the economic and personal losses.

Two communities, Rockville, Conn., and Utica, N. Y., were faced with the problem of important mills closing down. Both made vigorous efforts in advance of the crisis to solve the problem of unemployment before it occurred.

### The Rockville Plan

Early in 1951, the M. T. Stevens Co. announced that it planned to liquidate its Hockanum Mills in Rockville. The Connecticut Employment Service, with the full cooperation of the mill, made an inventory of the skills and aptitudes of the 1,200 worsted workers who were to be displaced.

The labor inventory was brought to the attention of various prospective employers in an effort to stimulate their interest in locating at Rockville.

By the end of May, 1953, it was estimated that half the workers had found employment in local concerns, some of which had become established in Rockville after the mill closed. Others were placed in jobs in surrounding communities.

During this period, 10 new manufacturing plants employing a total of 1,100 persons opened in Rockville. About half the available mill space was occupied by the new companies.

Altogether, the adjustment took place in less than two years and was generally considered satisfactory, despite a downgrading in skills and probable drop in average income.

### The Utica Plan

Utica handled the problem somewhat differently when the Utica-Mohawk plant and a second mill operated by A. D. Juilliard & Co. closed down.

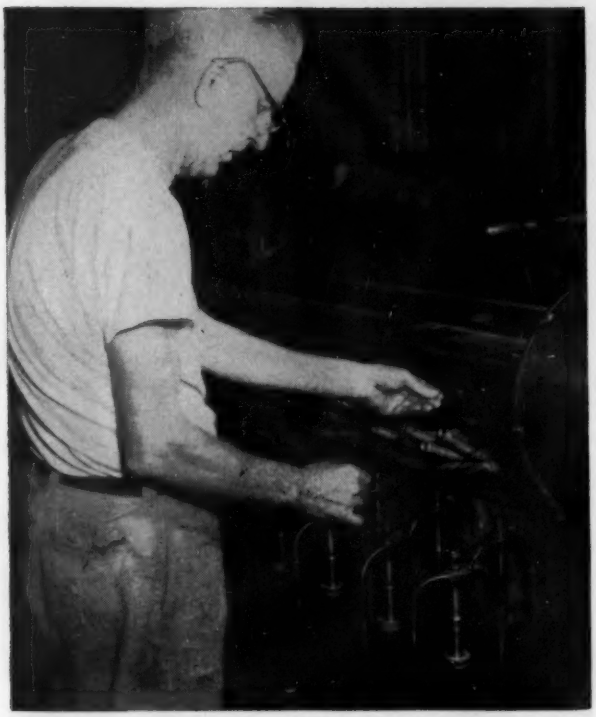
Local civic leaders, in cooperation with the State Industrial Commission, set up an action committee to develop a plan for helping the displaced workers.

With the assistance of various colleges and technical institutions, an educational program was established to train the former textile workers in machine-tool operations, electronics, blueprint reading, typing, and precision measurement. At the same time, a strong and successful effort was made to attract new manufacturing industries to the area.

More than 1,000 workers took the training courses, and most of them found jobs in the new industries that had been established. Others, who did not take the training course, found work as assemblers and in other unskilled occupations.

### Where Workers Found Jobs

| | Male | | Female | | Total | |
|---|---|---|---|---|---|---|
| | Number | Percent | Number | Percent | Number | Percent |
| **Manufacturing** | | | | | | |
| Ordnance | 3 | 0.7% | .... | ..... | 3 | 0.4% |
| Food | 12 | 2.6 | 5 | 1.5% | 17 | 2.2 |
| Textiles | 167 | 36.8 | 110 | 34.0 | 277 | 35.6 |
| Apparel | 4 | 0.9 | 43 | 13.3 | 47 | 6.0 |
| Rubber and products | 12 | 2.6 | 8 | 2.5 | 20 | 2.6 |
| Chemicals | 11 | 2.4 | 5 | 1.5 | 16 | 2.1 |
| Paper and products | 13 | 2.9 | 9 | 2.8 | 22 | 2.8 |
| Fabricated metals | 12 | 2.6 | 2 | 0.6 | 14 | 1.8 |
| Non-electrical machinery | 16 | 3.5 | .... | ..... | 16 | 2.1 |
| Primary metals | 1 | 0.2 | .... | ..... | 1 | 0.1 |
| Electrical machinery | 24 | 5.3 | 30 | 9.3 | 54 | 6.9 |
| Leather and shoe | 16 | 3.5 | 26 | 8.0 | 42 | 5.4 |
| Printing and publishing | 8 | 1.8 | 3 | 0.9 | 11 | 1.4 |
| Furnishings and fixtures | 8 | 1.8 | 1 | 0.3 | 9 | 1.2 |
| Transportation equipment | 11 | 2.4 | 1 | 0.3 | 12 | 1.5 |
| Instruments (watches) | 1 | 0.2 | 1 | 0.3 | 2 | 0.3 |
| Jewelry | 5 | 1.1 | 6 | 1.9 | 11 | 1.4 |
| Toys | 2 | 0.4 | 2 | 0.6 | 4 | 0.5 |
| Lumber | 1 | 0.2 | .... | ..... | 1 | 0.1 |
| Photographic equipment | 1 | 0.2 | .... | ..... | 1 | 0.1 |
| Miscellaneous | 1 | 0.2 | 4 | 1.2 | 5 | 0.6 |
| **Nonmanufacturing** | | | | | | |
| Construction | 21 | 4.6 | .... | ..... | 21 | 2.7 |
| Service | 65 | 14.3 | 53 | 16.4 | 118 | 15.2 |
| Government | 6 | 1.3 | .... | ..... | 6 | 0.8 |
| Armed forces | 3 | 0.7 | .... | ..... | 3 | 0.4 |
| Retail trade | 19 | 4.2 | 13 | 4.0 | 32 | 4.1 |
| Warehousing | 2 | 0.4 | .... | ..... | 2 | 0.3 |
| Miscellaneous | 9 | 2.0 | 1 | 0.3 | 10 | 1.3 |
| Unknown | .... | ..... | 1 | 0.3 | 1 | 0.1 |
| Total | 454 | 100.0% | 324 | 100.0% | 778 | 100.0% |



SUCTION TUBES are adjusted about 2 ins. from roving. Stop motion is most valuable on blended and colored roving.

LINT BOX occupies about 10 ins. of space at the end of the roving frame. The box is emptied once or twice daily.

# How Union Mfg. Co. Reduced ROVING DOUBLINGS 90%

**● An installation of Pneumastop for suction removal of broken ends on roving frames is finding favor for blends and colored roving at Union Mfg. Co. Slubs and doublings have dropped substantially**

**By JAMES H. BLORE,** Associate Editor, TEXTILE WORLD

Union Mfg. Co., Union Point, Ga., installed Pneumastop on six Saco-Lowell J-3 frames two years ago. The mill has found the units to be most valuable on blends made from wool, rayon, and cotton where more ends down are experienced than on all-cotton rovings.

Union Mfg. Co. also produces colored yarns made from dyed stock in addition to the usual cotton yarns. When dark-colored ends came down before the installation of the Pneumastop units, the roving-frame tender had difficulty spotting the ends down.

This condition resulted in waste and bad "snowstorms." Now, the frame stops immediately an end comes down; and the tender walks down the alley until he spots the trouble.

### Tender Operates Three Frames

The roving-frame tender looks after three frames. Each frame has 128 spindles, and 2.50-hk. roving is made from 55-grain sliver. There is one end up at the back, and 12-in. cans are used.

A red light on the end of the frame flashes to signal the tender to a stopped frame. The stopping mechanism is operated by an electric eye operated by roving that is drawn into the suction tubes. The air supply is shut off when the machine stops to prevent further roving being drawn into the tubes.

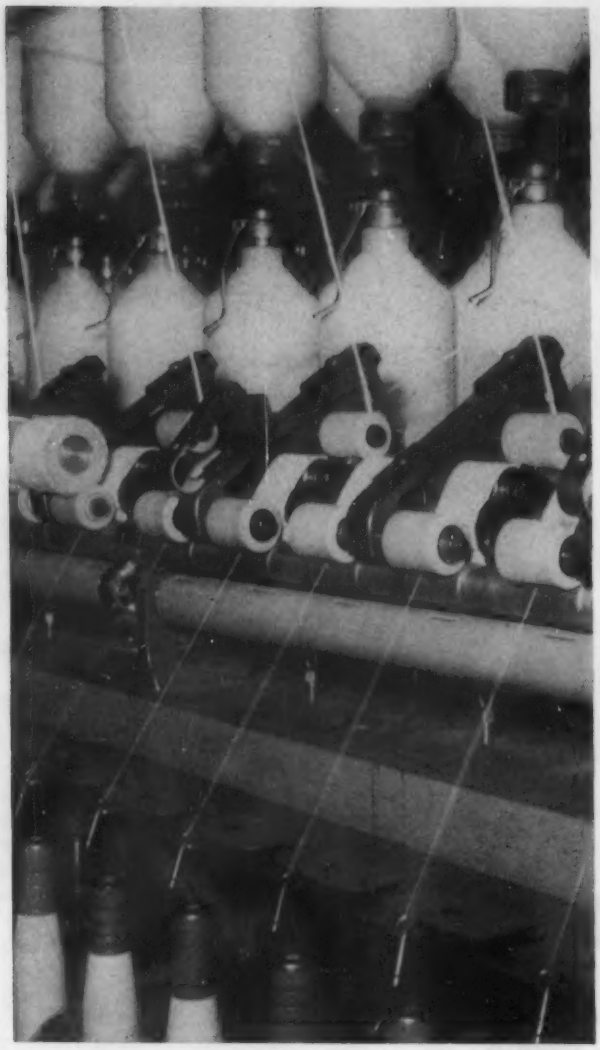
The fan that provides the suction does not start until a few seconds after the frame has started. This delayed start prevents slack ends being drawn into the tubes.

The end of the tubes are set about 2 ins. from the roving when it is stretched between the tip of the flyer and the front rolls. The same adjustment is used for all roving sizes.

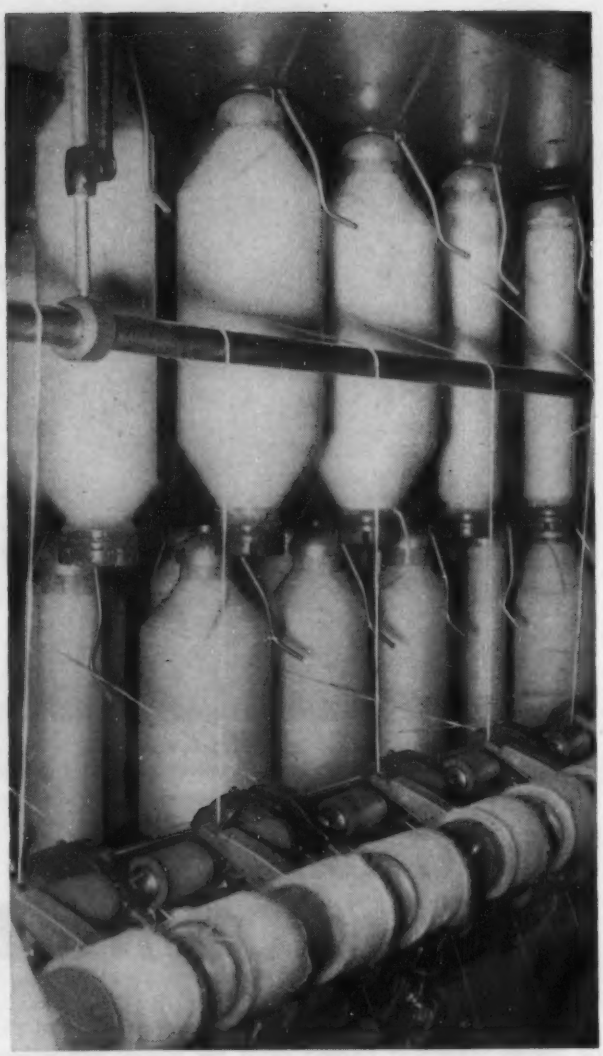
### Lint Box Emptied Daily

The lint box at the end of the frame occupies 10 ins. of space. The box is cleaned out by the utility man once or twice daily, depending on the type of roving run. The amount of waste taken from the box is less than the waste made before the installation of the Pneumastop units.

The installation has not affected cleaning time, but slubs have been reduced because fly from broken ends does not fall onto surrounding bobbins. Doublings have been reduced 90%.



CLEANALIGN system for holding top rolls has narrow cradle width that reduces lint accumulation and lessens frequency of picking clearers.



UMBRELLA-TYPE BOBBIN HOLDERS hold roving bobbins from the top. These holders accumulate less lint and give more-even tension than skewers.

# DIVERSIFICATION
## At Woodside Mills

**To diversify its products, the Liberty plant of Woodside switched about half its production from print cloth to combed shirtings and dress goods. Equipment added to accomplish this change includes—**

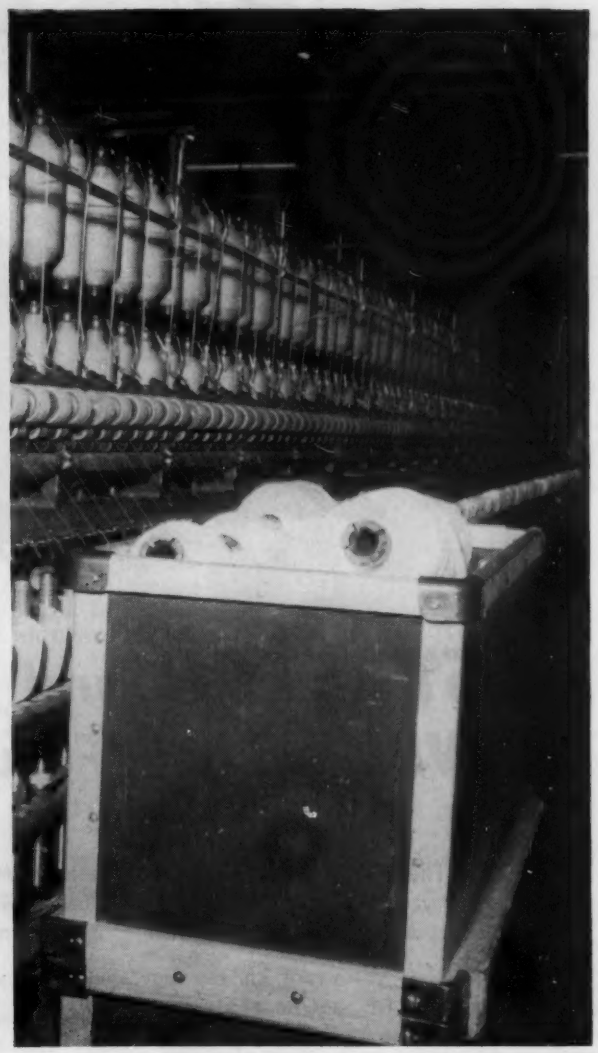
- **12 Saco-Lowell Model 54 combers**
- **13 Whitin F-2 warp spinning frames**
- **Four No. 15 and one No. 16 Saco-Lowell openers**

**By MICHAEL LONDON,** Assistant Editor, TEXTILE WORLD

UP TO 2½ YEARS AGO, the Liberty, S. C., plant of Woodside Mills was producing only print cloth. To diversify production, the plant began a modernization program; and today about one-half of total production consists of combed shirtings and dress goods.

During the modernization program, the Liberty unit added beam-dyeing equipment and 12 Saco-Lowell Model 54 combers and changed 225 looms to weave the combed fabrics. In the opening room, four Saco-Lowell No. 15 openers and a No. 16 opener

**WHITIN F-2 WARP SPINNNING FRAMES were installed. These frames have Whitin double-apron drafting systems with CleanAlign units.**



**SPRING-BOTTOM TRUCKS have replaced creel boards to facilitate overhead cleaning. Roving is creeled directly from trucks that fit easily between the aisles.**

were installed to combine with four existing F-7 cleaners.

Refrigerated air now conditions the warp spinning room; so humidity can be controlled accurately and working conditions are comfortable. Pneumafil, added to the frames when the air conditioning was installed, has helped cleanliness.

### Frames Draft Over 30

Recently, 13 Whitin 13¼-in. gauge, 312-spindle F-2 warp spinning frames were installed. The frames, which have 2-in. rings, produce a 9-in. bobbin from single ends of 10x5-in. roving. Drafting, done on a double-apron Whitin system, is over 30. To help maintain effective overhead cleaning, the creel boards were eliminated and the spinners use spring-bottom trucks for creeling roving. These trucks hold half a roving-frame doff, about 57 bobbins.

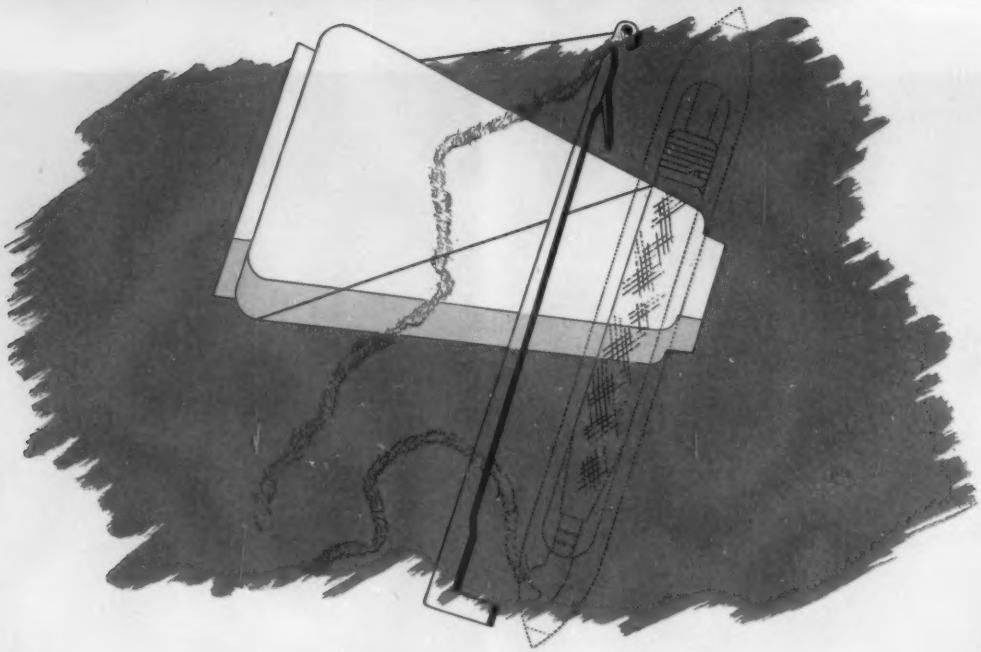
Instead of using skewers to hold the roving bobbins, the Liberty plant has an umbrella-type bobbin holder, which holds the roving from the top and allows it to rotate easily. This type of holder, according to Paul Bowie, superintendent of the Liberty plant, gives more-even tension and accumulates less lint than skewers.

The new spinning frames are also equipped with the CleanAlign system of top-roll suspension. With this system, the top arm holds the top rolls in rigid position and alignment. There is no need for cap bars and saddles. A center stationary sleeve spacer serves as the bearing for the weight application to the rolls through a screw-and-lever arrangement. Because of the narrow cradle width, there has been little accumulation of lint in the drafting system and the frequency for picking the clearers has been lessened substantially.

The Liberty plant runs carded 30s warp and 40s filling yarns and combed 30 to 60s warp and filling yarns. There are now 27,936 warp and 17,472 filling spindles in place. The filling spinning frames are 336-spindle 3-in.-gauge units. Yarn-production capacity is 140,000 lbs. per week, consisting of about 55% carded and 45% combed yarns.

Sliver to be combed is processed on four-roll breaker drawing with eight ends up, lapped, and run through a five-roll finisher drawing frame. Carded cotton runs through a lapper and a five-roll drawing. Single-process roving is used for both carded and combed cottons.

All cards have been motorized since they were installed in a new location.



# STRETCH and BULK YARNS— What's Their Future?

- **The textile manufacturer has been swamped with new materials during the last year. Most of these yarns have been made into hosiery or sweaters; but uses in other fields, including weaving, are expanding.**
- **New yarns are on the way, but these and existing yarns will fall into a pattern for specific end uses.**

By **JAMES H. BLORE,** Associate Editor, TEXTILE WORLD

STRETCH, BULK, AND HIGH-TWIST YARNS have so far been used mostly by knitting mills. These yarns are a natural for hosiery and knit goods because they improve the elastic and comfort properties of the knitted stitch.

These yarns are here to stay in the hosiery and sweater fields, and the end uses will increase in other types of knitwear. How much of the market these yarns will eventually capture is anybody's guess.

Some reports say that stretch socks will make up 60% of the men's and children's hosiery market. Stretch yarns are used in women's fine-gauge hosiery, and reports here again hazard a guess at more than 50% of the market. It is a fact that some hosiery mills are knitting nothing but stretch yarns.

Sweaters made from high-bulk yarns have captivated the public's fancy. One mill prophesies that the majority of sweaters will eventually be knitted from high-bulk yarns.

High-bulk sweaters have no more stretch than sweaters knitted from conventional yarn, but their hand and appearance are similar to those of sweaters made of cashmere.

Stretch yarns find an excellent opening in the glove field. These yarns are knitted on tricot, Simplex, and circular jersey machines for this purpose.

### More Research Needed

Swim suits made from stretch yarns have been somewhat disappointing so far because the fabric tends to sag when it becomes wet. This difficulty will be overcome, and this market will be wide open for the new yarns.

Underwear made from stretch yarns has met with only moderate success. Technologists will meet the challenge and come up with a product that will be comfortable to wear next to the skin and under other garments.

## Stretch Yarns

The new yarns can be divided into three separate categories: (1) stretch yarns, (2) high-bulk yarns, and (3) high-twist yarns.

The stretch yarns are filament yarns, but the stretch process gives greater cover than would normally be associated with filament yarns. The yarns are produced by a variety of methods that use heat to set the filaments of a thermoplastic yarn in a position away from the axis of the yarn. There are many ways of doing this job. In a number of methods, the yarn is twisted, heat-set, and then untwisted. Variations of yarn denier, the number

of twists, and the number of untwists give different characteristics to the finished fabric.

Stretch yarns are generally made in two-ply yarns to balance the construction and prevent excessive liveliness in the yarn. One ply is S-twist and the other ply Z-twist.

The false-twist method uses a rotating member–a trumpet, in one application–to twist the yarn while the yarn is heated. Two yarns, twisted together for a short distance, are heated; and the false twist runs out as the yarns are wound onto two take-up packages.

A novel method of introducing a permanent coiled effect is created by drawing yarn over a heated blade. The coils disappear when the yarn is stretched but reappear when tension on the yarn is released. This one-pass method has the added advantage of allowing other yarns to be twisted with the stretch yarn in the same operation.

### New Methods Soon

Other methods, which may result in better or cheaper yarns, are in the experimental stage. These methods include wrapping the yarn around hot coils and feeding the yarn into a heated small-bore, rotating tube.

An early method of crimping yarns was to knit nylon yarn on a small-diameter rib knitting machine. The fabric tube was heat-set, unraveled, and wound on cones for knitting into hosiery. The stitch formation was set in the yarn to give the fabric a crepe-like appearance.

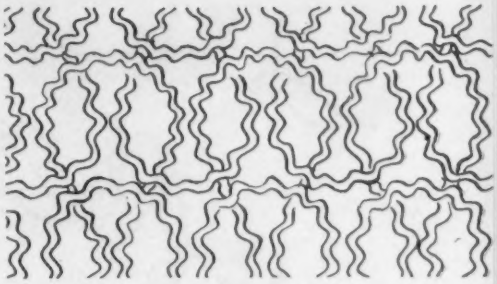
Other crimping methods include passing the yarn between heated gear teeth and feeding the yarn into a heated stuffing box.

Experiments were carried out in 1933 to impart crimp to acetate yarns, but these yarns were found to be unsuitable for the job. Helanca, the first commercial stretch yarn, was introduced in 1947. Five years elapsed before this yarn became the household word it is today.

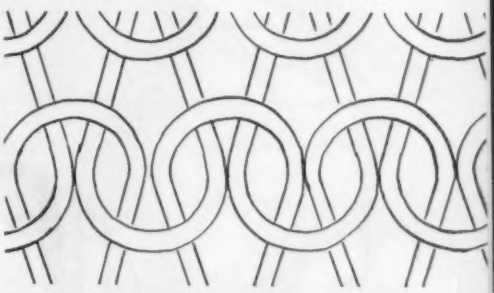
The stretch yarns are knitted with a long stitch, which tends to contract when the fabric falls from the machine. Because tight yarn tension causes a tight stitch, best knitting results are obtained with low yarn tensions.

The stitch pulls out to its original length when tension is applied to the fabric, and the crimps in the yarn straighten out. When tension is released, the crimps reappear and the fabric contracts.

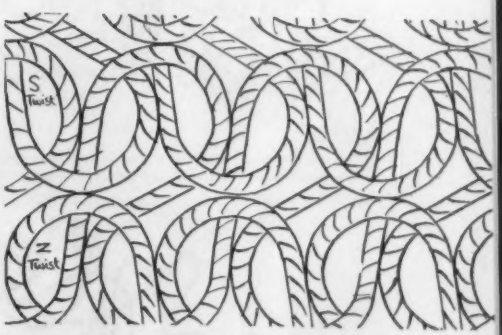
Woven fabrics have been commer-



RELAXED STRETCH YARNS in the knitted fabric curl and crimp. This action has a tendency to fill in the interstices between the stitches and provide greater covering power than would normally be possible with straight filament yarns. The fabric has a tendency to stretch in both directions.



WHEN THE FABRIC IS STRETCHED, the coils and crimps in the yarn disappear and the fabric takes on a plain knitted appearance. The crimps in the yarn immediately reappear when tension on the fabric is relaxed. To get this effect, a long stitch is necessary so that the maximum crimps can be carried in each stitch. To get a long stitch, excessive yarn tension must be avoided.




STRETCH FABRIC is made from high-twist yarns. S-twist and Z-twist yarns are necessary. This fabric is best knitted on a two-feed circular machine where alternate feeds are fitted with S- and Z-twist yarns. When the fabric is stretched longitudinally, the effect is much the same as the stretched fabric made from stretch yarns.

## *Here's a Research Man's Opinion*

***By STEPHEN I. RUDO, Director of Research, Werner Textile Consultants***

**The potentials of the new stretch and bulk yarns have only been scratched. Those who have dared to jump on the bandwagon will have, besides present success, advantages in know-how that others will find difficulty in catching up with.**

**Why have these yarns been such a huge success in hosiery and knitwear? Mainly, because they are bulky. They have appeal. The yarn is thicker than an untreated filament yarn.**

**The practical value of a fiber is no longer serviceability or wear resistance. A fiber, to conquer the market, must look and feel good. Men's filament-nylon shirts were not accepted because men also like comfort and a pleasant touch. Men no longer put up with uncomfortable clothes that are sticky and cold in cold weather and sticky and warm in hot weather.**

### Advantages

**There are many other advantages to the new yarns, among them—**

**Soft touch—with a hand like wool or cashmere**

**Air retention—because the fibers are separated by their curved configuration**

**Absorbency—which replaces the lack of absorbency in untreated synthetics**

**Perspiration conductivity—because of high capillary action**

**Dull surface—which looks like wool rather than a shiny filament**

**Stretchability—which allows garments to fit better**

**Low specific gravity—because they are lightweight compared with their volume**

**Easy washability**

**Quick drying**

**Wear resistance—properties retained from original fibers**

**One size—which is economical to the manufacturer and seller**

**Novelty appeal**

### Future Uses

**In addition to hosiery and sweaters, there is a big future in weaving stretch yarns and in replacing expensive elastic yarns.**

**The following products hold a big future for stretch and bulk yarns—**

**Undershirts, T-shirts, and men's shorts**

**Men's shirts**

**Light winter wear for men and women**

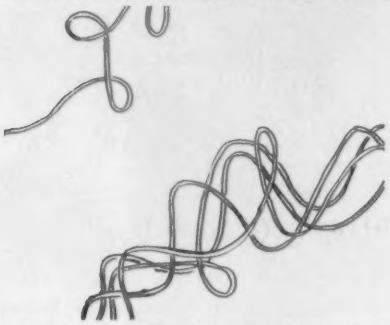
**Sheetings**

**Blankets**

**Swimwear**

## Stretch Yarns

Diagrams show how fibers lie in the different yarns.



### Agilon . . .

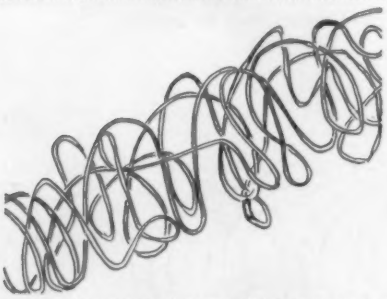
. . . is made by the method of drawing the yarn over a blade. Licenses to throw Agilon yarn are controlled by Deering, Milliken Research Trust. Agilon yarn can be produced as a singles or monofilament yarn. Other yarns may be twisted with it during the stretch process. Agilon yarn made from 15-den. monofilament nylon will stretch three times its length and return to its original length.

### Ban-Lon . . .

. . . production is licensed by Joseph Bancroft & Sons Co. The fibers are permanently crimped by forcing them into a heated stuffing box. Ban-Lon has a moderate stretch but a soft hand. The process can also be used for natural fibers. Ban-Lon has a higher moisture absorption than cotton. Woven fabrics are being made with Ban-Lon, but most production goes into men's socks.

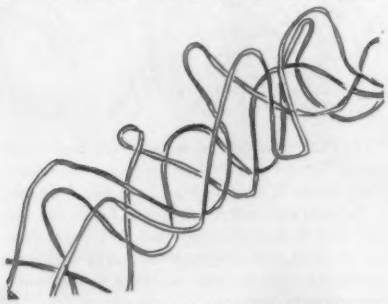
### Flexcel . . .

. . . yarns are made by Pen Wilson Co. These yarns are made as twisted combinations of stretch nylon yarns with cotton, worsted, rayon, and other synthetics. The yarns can be cross-dyed, and they retain much of the nylon's original stretch. Another variation of this yarn is Nyacry—a 510-den. nylon twisted with Acrilan—made by Blackwelder Textile Co., Inc.



### Fluflon . . .

. . . is made on the false-twisting principle by Marionette Mills, Inc. A similar yarn is made on a Universal No. 550 machine. The yarn is characterized by its very high bulk and high elasticity. Fluflon will stretch about 400% of its original length and return to its normal size. The yarn is made in singles or plied and has a very soft hand.



### Helanca . . .

. . . is the original stretch yarn. Throwsters of Helanca yarn are licensed by Heberlein Patent Corp. This yarn is made on the twist-heat-set-untwist principle. The yarns are usually multifilament yarns, and they have two plies to reduce torque. Helanca yarn can be stretched 400% of its original length and return to its normal size.

cially made from stretch yarns, and many developments are under way. In some cases, the stretch feature is not stressed. More stress is placed on the novelty effects obtained with the stretch yarn. As with knitting, all the crimp is taken out of the yarn momentarily during weaving.

Nylon yarns have dominated the stretch-yarn field, but Dacron is making its appearance to add to the variations of stretch yarns.

## Bulk Yarns

Bulk yarns can be classified as high-bulk yarns and textured yarns. The high-bulk yarns are staple-fiber synthetic yarns, while the textured yarns are filament and staple yarns of synthetic or natural fibers.

The high-bulk yarns are made by blending stretched fibers with fibers that have been stretched and relaxed. During the dyeing operation, the stretched fibers relax and crimp the relaxed fibers.

The two main types of equipment used to produce the high-bulk tow from which the yarn is made are the Pacific Converter and the Turbo Stapler. Each system gives a different characteristic to the finished garment. Blend percentages of relaxed and unrelaxed fibers also produce different end results.

Orlon, Acrilan, and Dacron fibers are used for high-bulk yarns; but blends of these fibers will be made with other synthetic and natural fibers.

Textured yarns are generally filament yarns, but the process used to make textured yarns can also be used on staple yarns.

The process consists of passing the yarn through feed rolls, across a strong air jet, and between take-up rolls. The feed rolls rotate faster than the take-up rolls. Tiny loops in individual fibers appear on the surface of the yarn to give the yarn a staple-like appearance.

The textured yarns do not stretch, but they are very well suited to woven cloths. The fabrics woven from these yarns do not pill, they are even, and they have all the advantages of filament yarns.

Different effects are possible in textured yarns by changing the loop size, the yarn size, the amount of twist, and the number of plies.

## High-Twist Yarns

High-twist yarns are used to knit women's hosiery. The yarns do not have high elasticity, but they rely on the knitted construction to provide the stretch. The yarns are not bulky, but bulkiness is not a requisite for nylon hosiery.

Many of these yarns are available. Some yarns are heat-treated and given a high twist. Others are given a high twist, heat-set, and then untwisted a few turns. Still other yarns are given a medium twist and heat-set, while some have a comparatively low twist and are not heat-set.

When high-twist yarn or low-twist yarn that has not been heat-set correctly is knitted into fabric, the wales tend to lean in the direction of the twist in the yarn. This tendency was a problem in knitting high-twist yarns, and alternate courses of S-twist and Z-twist yarn were sometimes knitted to cancel the diagonal effect and keep the wales perpendicular.

This same principle is used to impart longitudinal stretch to the fabric. On a full-fashioned machine, two courses of Z-twist yarn alternate with two courses of S-twist yarn.

On a seamless machine, two feeds are necessary to knit alternate courses of Z- and S-twist yarns; but most seamless machines are built with only one feed. Several American and British machine builders showed new machines with two feeds at the 1955 Knitting Arts Exhibition. High-twist yarns have more to offer the seamless knitter than the full-fashioned knitter, because they further improve the fit of seamless stockings.

So far, these yarns have all been made from nylon; but they can also be made from Dacron.

### What Will Become Obsolete?

Even with existing synthetic fibers, the permutations and combinations of stretch yarns, bulk yarns, and high-twist yarns are astronomical. We shall possibly see more of these new yarns appear during the next year or so, but eventually there will emerge a pattern of specific yarns for specific end uses.

Some of the yarns in use today will become as obsolete as the silk stocking and the woolen undershirt. At the moment, one guess as to which yarns are here to stay is about as good as another.

[For latest stretch yarns, see Knitting Arts Exhibition report, p. 105.]

***For processing tips see—***

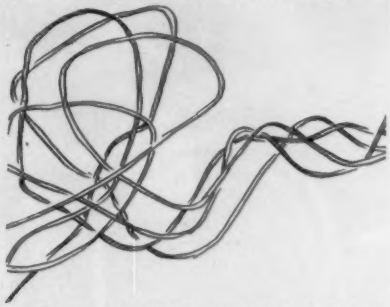
**Helanca—TW, Aug., '54, p. 69**
**High-Bulk Orlon—TW, Oct., '54, p. 80**
**Taslan—TW, July, '54, p. 75**

***For knitting techniques see—***

**Stretch Yarns—TW, Mar., '53, p. 110**
**High-Bulk Orlon—TW, Oct., '54, p. 82**
**Taslan—TW, Sept., '54, p. 72**

**Synfoam . . .**

**. . . is the name of a stretch yarn developed by Synfoam Yarns, Inc. The twist-and-untwist principle is used for this yarn, but the yarn does not have the same characteristics as Helanca yarn. Nylon and Dacron crepe fabrics have been made from the yarn. An interesting application for Synfoam is upholstery.**



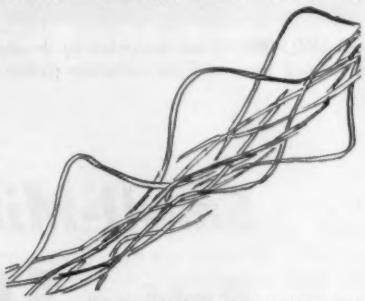
**Stretch-Core . . .**

**. . . yarns have been made in wool and nylon for men's socks. The yarn is made on conventional spinning frames by feeding the stretch yarn between the front rolls of the frame while woolen or worsted yarn is spun. The wool fibers completely cover the stretch yarn to give an all-wool appearance. The yarn retains good elasticity.**

## Bulk Yarns

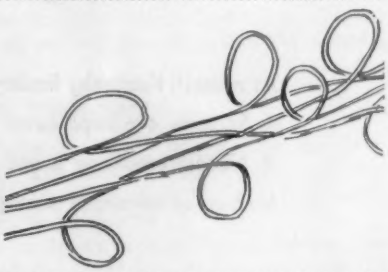
**High-Bulk Yarns . . .**

**. . . are made from Orlon, Acrilan, and Dacron; but blends with other fibers are possibilities. One high-bulk yarn is made by stretching the filaments while they are in a rope-like form. A percentage of fibers are then relaxed, and all fibers are broken into staple and spun into yarn. During finishing, the unrelaxed fibers shrink and crimp the remaining fibers.**



**Taslan . . .**

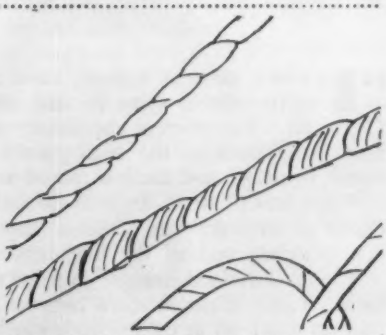
**. . . is a textured yarn licensed by E. I. du Pont de Nemours & Co., Inc. The loops are produced in filament yarn by feeding the yarn across a high-pressure air jet. The feed rolls rotate faster than the take-up rolls, and the loops can be varied in number and size. The yarn is not a stretch yarn, but it does have a greater covering power than normal filament yarns.**



## High-Twist Yarns

**High-Twist Yarns . . .**

**. . . do not have the high elasticity of the stretch yarns. The fabric elasticity is obtained by changing the fabric construction. In the high-twist yarn, there is a tendency for the yarn to twist excessively and distort the stitch structure of the knitted fabric. Many throwsters are producing their own versions of this yarn.**



HELANCA SOCKS are separated by an alginate draw thread, which is snipped once; and the socks are pulled apart.

RACKS for yarn and finished goods are stained and polished. Rubber mats on the floor increase walking safety and comfort.

# *Small-Mill Efficiency Makes Better STRETCH SOCKS*

**At a small Kentucky hosiery mill that knits only Helanca socks—**

- **Seconds are kept down to 2.3%**
- **Needle breakage is one needle for each 6 doz. pairs of socks—**

**because of advanced management methods that keep workers happy and the mill busy.**

**By JAMES H. BLORE,** Associate Editor, TEXTILE WORLD

"IT'S OUT OF THIS WORLD," said a machine builder's representative when he first visited Trigg Knit at Cadiz, Ky. The efficient appearance of this small hosiery mill is reflected in the high-quality products, the low needle breakage, and the low rate of seconds.

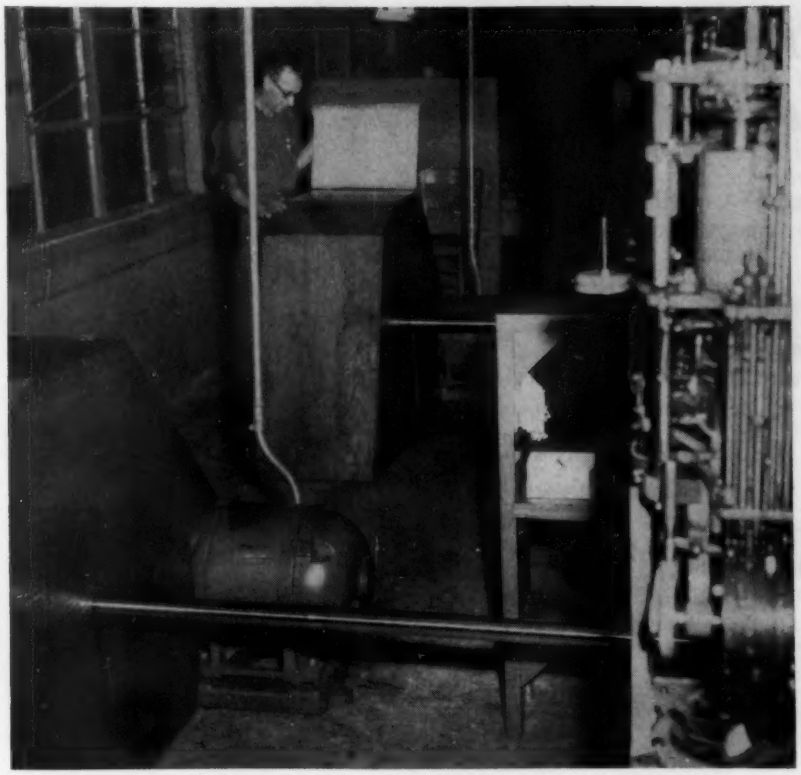
There are 30 Scott & William links-links Komet machines in the mill. The machines have 3-, 3½-, and 3¾-in.-dia. cylinders; and all the machines are 48 gauge.

The machines are arranged in three rows of 10 machines each. There is ample room between the machines, and knitters don't get in each other's way because each knitter looks after the 10 machines on one line.

## All Machines Knit Same Yarn

Knitters are instructed to keep yarns on the same-position yarn stands on all machines. All 30 machines knit the same yarn, which is 2/70-den. Helanca. Two courses of 2/36s spun nylon are knitted before the looping course, and 12 courses of the same yarn are knitted after the looping course to make the looping operation easier.

The draw-thread yarn is 140-den. alginate rayon. The



LINE SHAFTS are driven by a 30-in.-dia. pulley from a multiple V-belt and guarded with a five-ply wooden cover with a hinged lid.

**WEEKLY NEEDLE REPORT**

MACHINE NO. 26

| | | | | |
|---|---|---|---|---|
| | D | 6-6 | 6-8 | 6-4 |
| Mon. | N | — | 1 | 1 |
| | D | 6-8 | 6-6 | 6-2 |
| Tues. | N | — | 1-1-1 | — |
| | D | | | |
| Wed. | N | | | |
| | D | | | |
| Thur. | N | | | |
| | D | | | |
| Fri. | N | | | |
| | D | | | |
| Sat. | N | | | |
| | D | | | |
| Sun. | N | | | |
| | D | | | |
| Total | N | | | |

1—
2—
3—
Style 554

NEEDLE REPORT is made weekly for each machine. About 6 doz. pairs of socks are produced for each broken needle. Fixers regularly examine report.

knitter simply snips the draw thread and tears the socks apart. The alginate yarn ends dissolve in the scouring bath to leave the tops neat and clean.

The alginate-yarn draw thread helps produce a better-looking top. The socks are easier for the knitter to separate, and the new method does not make so many clipped ends as the old method of pulling the threads.

One fixer and one learner on each shift maintain the 30 machines. The learners help the fixers change needles and sliders. They also clean and oil each machine daily and keep the floor and the room clean and orderly.

The machines are stopped while the cleaning is done. The first line of machines is kept oiled and cleaned by the learner on the first shift, the second line is maintained by the second-shift learner, and the third line by the third-shift learner.

The needles and jacks are oiled once each shift with a stainless nonfluid oil. All cams are removed when a smash occurs to make sure that no broken butts remain in the cams to do damage.

### Needle Report Made Weekly

A needle report is placed on each machine at the start of the week. The production and needle breakage for each shift are entered on the report by the knitter. The fixer examines the reports regularly and checks the machines with high needle breakages.

This practice helps keep needle breakage down. An average of 6 doz. pairs of socks are produced for each broken needle. The slider breakage is 7 to 8 doz. pairs for each broken slider.

Twisted 210-den. nylon thread is used for looping. This thread is twisted twice around a thread-tension device to give a smooth, neat looping job. The socks are then sent away for preboarding and finishing.

Rubber perforated mats 3 ft. wide run the length of the knitting alleys. These mats abut against the front rail and provide knitters with a safe, comfortable walkway.

The machine legs are screwed to two wooden rails for solid anchorage and to dampen vibration. The rails are bolted to the concrete floor, and they have a chamfer at the top edges so that the floor can be kept clean. Floors, walls, and rails are all painted gray to match the knitting machines.

### All Knitters Have Work Racks

Sturdy wooden racks, each with two shelves, run down each knitter's alley. The racks are stained and polished, and the finished work is placed on the top shelf while yarn is stored in the lower shelves.

Each machine is equipped with a Wesco electric stop motion that receives its power from a 1-in. conduit that runs behind each row of machines. The conduit is raised about 2 ft. over the line shaft to reduce the length of trailing wires. The plug receptacles on the conduit are placed immediately behind each machine.

Two 40-w. daylight lamps are hung 6 ft. from the floor over each machine. One daylight lamp is positioned on the ceiling over each alley to keep the top stop-motion units well lighted.

Line shafts are driven by a 30-in.-dia. pulley and a multiple-V-belt drive. The drives are guarded by covers made from five-ply board, which is stained the same color as the racks. The guards are fitted with hinged lids for easy access to the drive.

The mill is heated by an electric heater. This heater is kept on during the week-end shutdown to provide good machine start-ups on Monday morning.

# Carolina Mills Look to Better WEAVING and SLASHING

**Mill leaders got together at an STA meeting to talk about weaving and slashing improvements. They hope to improve weaving conditions by—**

## WEAVING

- **Putting a floor under each weaver's seconds**
- **Boosting each weaver's efficiency to an over-all goal**
- **Improving loom motions by adding new developments**

## SLASHING

- **Coating cylinders with Teflon**
- **Covering rolls with synthetic rubber**
- **Controlling size pick-up**

ON APRIL 2, 134 members of the Eastern Carolina Div. of the Southern Textile Association met at the Textile School of N. C. State College at Raleigh, N. C., to try to find better ways of running their machinery.

The round-table discussion of slashing and weaving was led by J. K. Bruton, general superintendent, Erwin Mills Nos. 1 and 2, Erwin, N. C.

## WEAVING

The subjects that cropped up in the weaving talks revolved around such questions as:

1. The percentage of production expected from each weaver, and how to get that percentage
2. How cloth quality is controlled for each weaver
3. How to keep weavers inspecting cloth at the looms
4. What is done to looms to prevent second-quality cloth
5. Shuttle life and over-all supply costs

### Keeping Production Up

Men from three plants said they have a floor under each weaver's production; and no weaver can drop below 92% efficiency in two of the plants and below 91.5% in the third plant. To create interest in efficiency, reports of each weaver's daily, weekly, and monthly production are posted. If a weaver drops below the allowed percentage, he is warned; and the warning is serious.

The responsibility for second-quality cloth is given to individual weavers in much the same way efficiency is charged to them. There are daily, weekly, and monthly reports on seconds for each weaver. If a weaver's seconds exceed the average for the entire weave room, he is warned.

Seconds are graded in the gray cloth in all plants represented in the discussion.

Seconds are shown up in one plant by two methods: (1) cloth graded as seconds is shown up in the cloth room, and (2) supervisors roll the cloth back at the loom as it's woven and show defects to weavers right on the looms.

### Inspecting by Schedule

Weavers are required to inspect the cloth once each shift on all their looms. And because the supervisor rolls back the cloth and may find a defect, the weavers inspect the cloth more carefully. The cloth is rolled back from 12 to 15 yds., depending on the speed of the loom. The time required to roll back the cloth and inspect it on each loom is only a minute or two.

The inspection includes all sorts of seconds, for example, thick and thin places, mispicks, etc.

When a loom is producing seconds, the cloth is rolled back as much as 40 to 50 yds. as a follow-up. Rolling back the cloth and inspecting it has been effective in reducing seconds at this mill.

A representative from another mill reported the following method.

"In our mill, we have a ticket for seconds that goes to the weave-room supervisor. Then a slip is posted on the loom making seconds. We have one slip for each loom. Each type of defect has a number. This ticket is checked by the weaver or loomfixer, whoever is responsible; and then it is checked by the supervisor. We do not have a regular system of rolling back cloth at the loom to inspect it, but we do roll it back and inspect it when a slip is posted showing seconds have been made.

"The slip is removed from the loom when the loomfixer has fixed the loom and initialed the slip. If a ticket comes back a second time for the same defect, we show the cloth up on a frame in the weave room.

"Usually a cloth defect is corrected within 12 to 15 hrs. after we find it. Of course, we have a system of patrolling all looms all the time; and the defect has often been corrected when the ticket comes to the weave room. But at other times, the defect has not been corrected.

### Better Filling Control

The application of Teflon coating on side-fork filling grates was discussed briefly, and one mill represented has 200 looms being tested. No definite decision has been reached as to the value of Teflon-coated grates.

**CHAIRMAN J. K. BRUTON (right) of Erwin Mills takes an informal pose as he directs the weaving and slashing session. J. B. Hutchinson of Patterson Mills (left) and William T. Wiley (center) of Erwin Mills assisted Mr. Bruton. W. A. Rhinehardt of Golden Belt Mfg. Co. also served on the panel.**

One mill man says: "The question of these grates is pretty much up in the air. I am not prepared to say whether they are advisable or not."

The general opinion of men reporting on the subject is that center filling-fork stop motions have great advantages over side-fork stop motions in weaving first-quality cloth. Although it costs five to six times more to maintain center forks than side forks at one mill, the results in reduced thick and thin places in cloth is more than worth the extra cost. In the end, center forks are cheaper.

To maintain center forks at one mill, the forks are checked over completely at every warp-out. The warps run out every 5 to 6 weeks. Worn parts are replaced at that time.

### How Long Do Parts Last?

The life in loom hours for five main loom supply parts was given by three mills. At one mill, here is the average life in loom hours of the five items on 48-in. X-2 looms running at 180 ppm.: (1) shuttles, 4,575; (2) checkstraps, 912; (3) pickers, 602; (4) picker sticks, 1,816; and (5) lug straps, 15,000.

At this mill, the total supply cost per loom per 1,000 loom hours is $19.07.

At another mill, the life of supplies in loom hours on 40-in. X-2 looms running 194 ppm. on 64-sley coarse cotton cloth are: (1) shuttles (fiber-clad), 7,025; (2) checkstraps (endless), 4,906; (3) pickers, 245; (4) picker sticks, 1,088; and (5) lug straps (fabricated rubber), 4,613.

The supply cost per loom at this mill for 1,000 loom hours is $11.44.

At a third mill, the life of supplies in loom hours on 42-in. looms running at 196.5 ppm. is: (1) shuttles (dogwood), 2,500; (2) checkstraps, 2,200; (3) pickers, 982; (4) picker sticks (hickory), 3,500; and (5) lug straps, 14,000.

The over-all supply costs per loom for 1,000 loom hours is $18.52 at this mill.

## SLASHING

Down-to-earth subjects were discussed in the slashing session of the meeting. Subjects singled out and discussed at length were, in most instances, concerned with relatively new developments in equipment and how the equipment improves slashing. Itemized, the subjects are: (1) Teflon coatings on slasher cylinders, (2) rubber-covered squeeze rolls, (3) homogenizers, and (4) methods for controlling size pick-up.

The principal advantage of Teflon coatings on slasher cylinders is that it eliminates the sticking of slashed yarn to the cylinders. Because sticking is prevented, the cylinder speed can be increased up to 30%; and, consequently, the slasher speed can also be increased.

Most applications of Teflon coatings have been on synthetic-fiber yarns, but the coating is now being used on cotton yarns. Teflon is applied to cylinders removed from the slashers and is sprayed on in a very thin coating of 1.5- to 2.0-mm. thickness. From one to five cylinders on a slasher are coated. The diameter of cylinders coated ranges from 9 to 30 ins.

### Protect the Surface

The coating is fragile, and care has to be taken to prevent the surface from being scratched. A cylinder coated with Teflon is expected to last five years before being recoated.

Another type of Teflon coating is a treated fabric to be applied directly to the slasher cylinders. The fabric is wrapped around the cylinders and gives the same surface as that sprayed on, but there is a lap joint. This covering is not entirely satisfactory because the fabric wrinkles when the cylinders cool and contract during the week-end shutdown.

The Teflon is also applied to guide wires and works well.

### Rubber Rolls Are Tried

Rubber-covered squeeze rolls as a substitute for blanket-covered and yarn-wound rolls are giving good results.

A representative of one mill said, "We have one rubber-covered finishing roll that has been running for six months and is doing a fine job without being buffed. It is more economical than the rolls we've been using.

"We intend to equip all our slashers with these rolls on both the front and back. We will remove the rolls from the slashers and send them out to have them covered. The roll already on is running on 8s to 15s yarn at 40 yds. per min. The average yarn stretch is 1.5%.

"When necessary, the rolls will be removed from the slasher and rebuffed in a lay in our machine shop.

"I can't say if we have fewer roll marks with rubber-covered rolls because on our type of yarn we have a roll mark every time the slasher stops."

### How To Get More Pick-Up

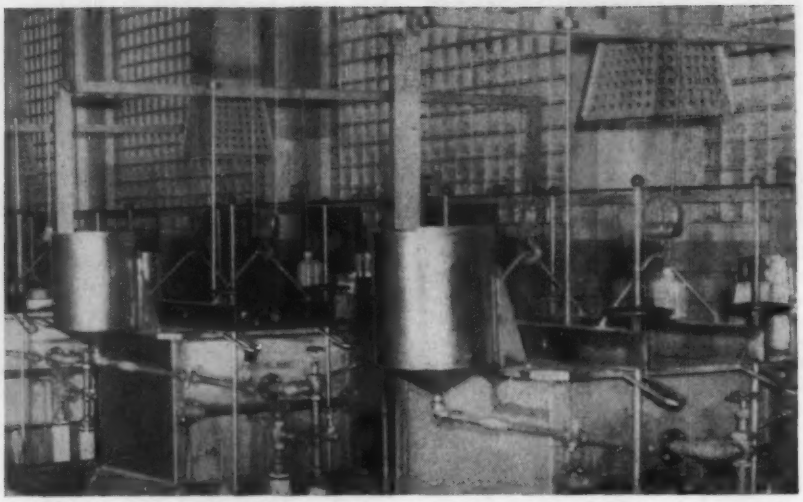
Several factors contribute to controlling size pick-up at the slasher. Ideas from several mill men agree pretty closely on these methods:

"To get more size pick-up, we increase the pressure on the squeeze roll; and to get less pick-up, we decrease the pressure. But you can't increase the pick-up greatly by the roll pressure alone. You have to vary your size formula.

"The percentage of pick-up also depends on the condition of the blanket. A new blanket does not squeeze out the size the way a worn blanket does."

In the report on homogenization, one mill man said that his mill has been using a homogenizer for five years on all-wool warps. Potato starch is used. The size content of the warps was not changed when the homogenizer was installed, and the size content is controlled automatically.

WHITE TOPS with covers on them are received from the Worcester plant (Bell Co.) and stacked in the dyehouse to be dyed.



DYE KETTLES are in a modern plant. Chrome dye is used with a template control marked with a pencil to show when to add ingredients. Miron has four 100-lb., three 200-lb., two 300-lb., and one 500-lb. machines.

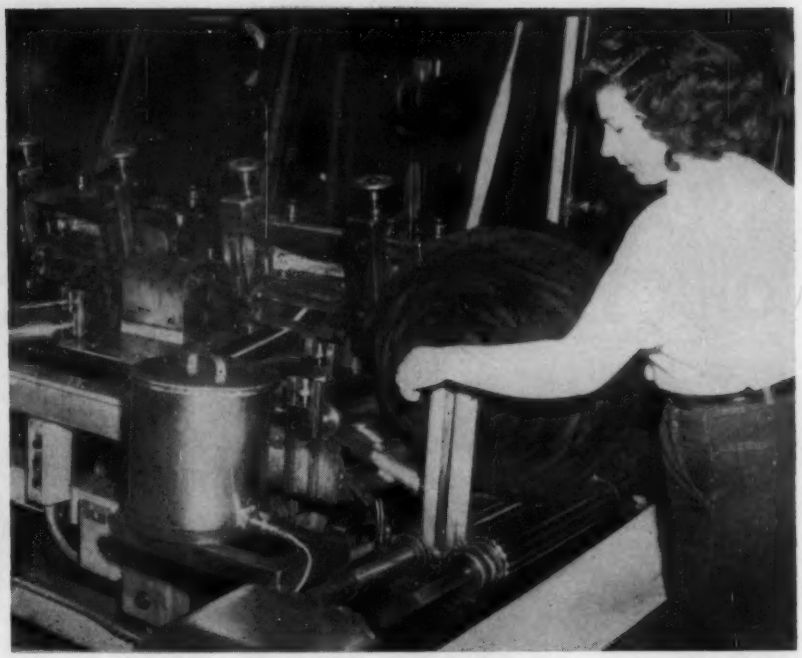
# TOP BLENDING
## At Miron Mills

● The white top made by The Bell Co., Worcester, Mass., [TW, May '55, p. 92] is dyed and blended at Miron Mills, Inc., Clinton, Mass., a division of The Bell Co. (Miron also weaves and dyes piece goods.) The Miron plant is a modern building with glass-block windows and adequate ventilation in the dyehouse.

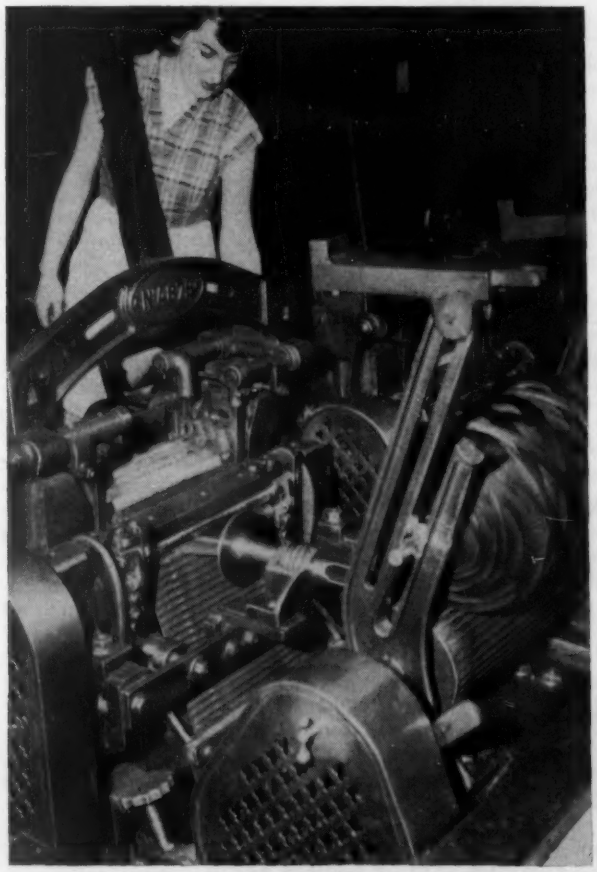
● In the blending room, three lines of gill boxes—American, French, and English —are used with blending, mixing, and finish gilling, preceded by a backwasher equipped with a SACM gill box. A Parks-Cramer evaporative cooling system, installed overhead, holds the room to approximately 65% r.h.

By THOMAS B. WINSTON

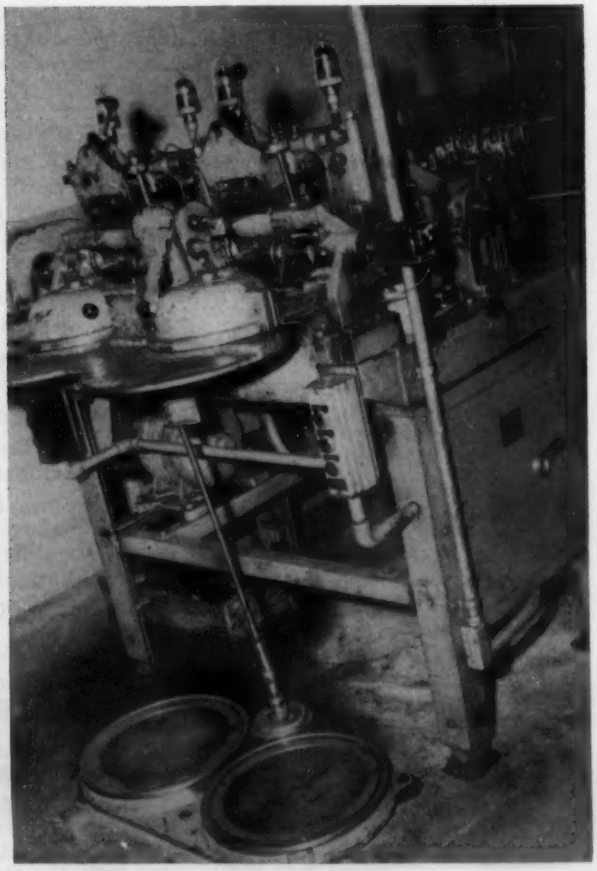
**BLENDING GILL BOXES** are supplied from a blocked floor area to keep the lot and shade numbers in correct supply. The top has just come from a backwasher equipped with a SACM gill box. Miron has three sets of gill boxes—American, French, and English.



**MIXER** has a sandwich take-up with balling head. Emery emulsion is applied at this point. This Berker gill box is used with two other Berker units in a three-machine set. In the English set, a fixed draft is used on the Hall & Stells mixer.



**FINISHER** turns out the Bell-standard 25-grams-per-meter finished top. This French set is favored by Miron for top-quality work when a choice of sets is possible. The finished top is shipped to the Woonsocket, R. I., spinning plant.



**PIN DRAFTER** is used to handle the left-overs. Left-overs are used for leveling off—for evening up shades to make them perfect. The left-overs will be spread over the rest of the lot. The pin drafter here is waiting for a batch of left-over.

# SRRL Reports On CYANOETHYLATED COTTON

- **The modifications produced by the action of acrylonitrile on cotton are consistent on both yarns and fabrics**
- **The substitution of C-N groups proceeds most efficiently when the caustic content of the fiber is 15%**

THE SOUTHERN REGIONAL RESEARCH LABORATORY work on cyanoethylation of cotton started with the determination of the optimum amount of NaOH to be used as a catalyst in the reaction. Experiments showed that amounts above 15% NaOH tend to reverse the cyanoethylation reaction.

Cyanoethylation, preceded by slack caustic treatment, causes changes in breaking strength and elongation; but variations in results are largely due to changes in the construction of the yarns because of the processing. Loosely twisted yarns gain somewhat in strength; fibers remain essentially the same, while tightly twisted yarns lose strength slightly. This is attributed to an increase in frictional forces between fibers in the case of loosely twisted yarns, whereas the tightly twisted yarns had little room for improvement in this direction.

Elongation improves in yarns, but in fibers it decreases slightly. The yarn shrinkage due to processing appears to account for this effect. Fiber length was virtually unchanged.

In fabrics, breaking strength of the treated cloth (a 48x48 sheeting) was improved, whereas an 80x80 print cloth showed a decrease with increasing substitution of C-N groups.

Elongation tests on the 80x80 print cloth reflected results obtained with yarns. Above 3% nitrogen content, there was a rapid increase in elongation as nitrogen content increased.

### Tear Strength Varies With C-N Content

The tear strength is lower where nitrogen content is less than 3% but increases until the nitrogen content is about 8%, at which point the elongation can no longer improve the load distribution, and tear strength decreases.

Under 4% nitrogen content, fabrics show decreased flex abrasion resistance. With greater amounts of nitrogen this resistance improves, but the original resistance of the control fabric is not regained.

Flat abrasion of fabrics with less than 4% N gives variable results indicating some degree of improvement. From 4% nitrogen up to 12.3% there is a rapid rise in flat abrasion resistance.

### Heat Resistance Is Improved

Fibers, yarns, and fabrics of 4.5% nitrogen content exposed to 160° C. for one week retained 50% of their strength. Little difference was noted in the effect of wet or dry heat.

Samples of 12/5 yarns containing 3.8% nitrogen were stable to 22 weeks of burial in a bed composed of ⅓ sand, ⅓ top soil and ⅓ rotted horse manure. Temperature was kept at 90° F. and the bed well watered. The activity was checked continually with control samples, which were reduced to 0 strength in five to six days. Even as little as 2.1% nitrogen improved resistance to some extent.

Cyanoethylation increases density in direct proportion to the amount of substitution. Density measurements indicate uneven chemical treatment more accurately than ordinary chemical analysis.

### Dyeing Properties Are Changed

Acid dyes such as Fast Red S Conc and Orange II dye cyanoethylated cotton readily from an acid bath containing cuprous ion and a reducing agent. Extremely dark shades are produced with a nitrogen content of over 2%.

Basic dyes such as Basic Blue OB, Basic Red 4G, and Basic Yellow OL, which do not dye cotton, will dye cyanoethylated cotton from a bath containing sodium acetate and acetic acid. Extremely bright shades result when the nitrogen content exceeds 4%.

The cuprous-ion method of dyeing cyanoethylated cotton is particularly applicable to microscopic examination for the purpose of determining uniformity of treatment. Cross sections of a dyed yarn containing 3.71% nitrogen showed considerable variation in color. Density measurements showed extremes of from 1.410 to 1.493 grams per cubic centimeter, corresponding to a nitrogen content of 6.11% and 2.55%. The yarn retained 92% of its original strength after 22 weeks of soil burial and 20% of its original strength when heated to 160° C. for one week.

Experiments in package dyers, flasks, or tubes with constant flow indicate even cyanoethylation at high or low substitution; but intermediate (4 to 8%) substitution in flasks tended to be uneven. It is thought that constant flow under pressure prevents local overheating and is essential for good distribution of cyanoethyl groups.

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*From a paper presented at the Third Chemical Finishing Conference, Washington, D. C., by J. W. Weaver.*

# *What Was New at the KNITTING SHOW*

The 42nd Knitting Arts Exhibition at Atlantic City, April 25-29, pointed up three strong trends in the knitting field:

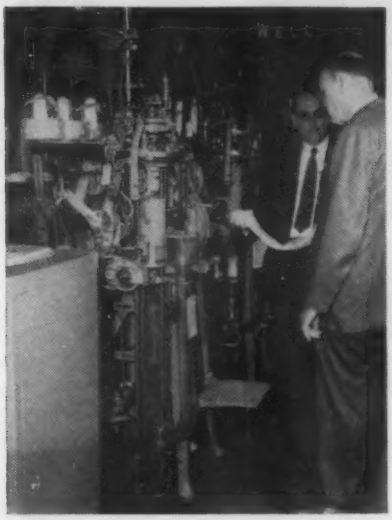
**Stretch Yarns** and machinery for handling them seem, from the exhibits, to have received more attention in the last year than any other factors in knitting. Conversations with both mill men and suppliers indicate that problems created by stretch yarns and markets opened by them are still in a state of change. [See p. 94 for a roundup on stretch yarns].

**Seamless Hosiery** for women is still growing by leaps and bounds. Several new machines were shown, and there is talk that still other companies are coming on the market with machines in the next few months.

**Hosiery Dyeing and Finishing** by more fully automatic methods was one of the major developments shown. Principles employed for dyebath control undoubtedly will spread to other types of fabrics besides hosiery.

On the following pages, TEXTILE WORLD presents a report in pictures and text of the new equipment and supplies at the show.

**To request further information** on any item described in this review, please use the Readers-Service card on p. 181. Refer to the number following each description.



### Seamless-Hosiery Machines

Three seamless-hosiery machines were shown by Scott & Williams, Inc., Laconia, N. H. The 474-needle K-N machine was knitting 12-den. nylon, and the 400-needle K machine was knitting 15-den. Agilon. All machines have long legs and the automatic take-up attachment.

A device on the K-N machine presses the sinkers in during the welt to give a 13½-in. stretch. The speed was 190 rpm.; and four safety devices protected needles, take-up, and air supply.

The KNU machine, built for the foreign trade, has a seam attachment, cradle sole, and micro mesh with a pattern in the welt. The micro mesh is made with an auxiliary selector finger. (A-1)

### Nylon-Yarn Lubricant

A nylon-yarn lubricant said to be especially effective on stretch yarns was shown by H. C. Harding, Inc., Philadelphia, Pa.

To use the lubricant, the operator dips a cone of yarn in a bucket of the lubricant. Then the yarn is lifted out, drained for 4 hrs., and used. This treatment is said to penetrate the yarn thoroughly with the lubricant and does not leave a sticky film at the base of the yarn from draining.

Other features of the lubricant are that it (1) cuts static, (2) reduces jelly formed when the yarn runs over felts and carriers, and (3) eliminates friction and drag. (A-2)

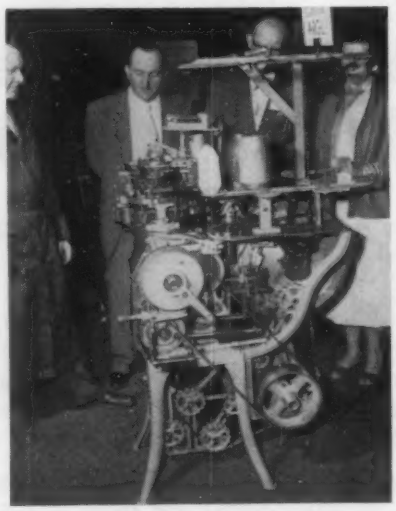
### Yarn Lubricant

A yarn lubricant called Rubberknit 118 was announced by Richmond Oil, Soap, & Chemical Co., Inc., Philadelphia, Pa. Designed particularly for use with rubber or rubber-covered yarns, the product will not cause deterioration of the rubber; it provides an antistatic effect, it scours out easily, and it will not yellow whites. (A-3)

### Automatic 2x2-Top Hosiery Machine

Model ETR, shown by Scott & Williams, Inc., Laconia, N. H., was knitting anklets with 2x2 rib tops. The machine is equipped with a P. W.-type take-up.

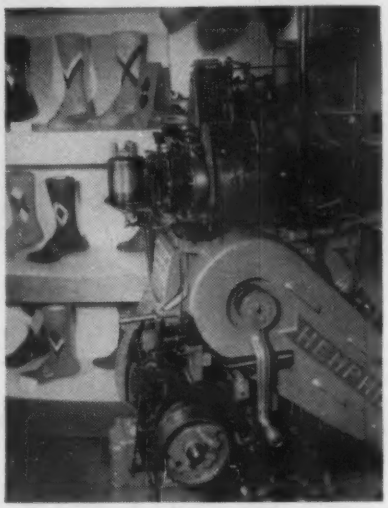
The dial shogs one needle for the welt courses. No saw-tooth sinkers are used. The machine shown was a 108x3¾-in. machine. (A-4)



### Argyle Hosiery Machine

The ARGL machine, built by Morris Speizman Co., Inc., Charlotte, N. C., has a large-diameter pattern drum immediately behind the cylinder to give close control of yarn fingers and knitting elements.

A switch cam is used to pull a needle down to commence a new design. Double-feed knitting is used in the foot to speed production. The 36-gauge machine with 160 needles and 3½-in. cylinder was knitting 30/2 mercerized yarn. (A-5)



### Intarsia Hosiery Machine

The Intarsia Model V. I. P. machine, shown by Hemphill Co., Pawtucket, R. I., was a 160-needle 36-gauge machine with a 4-in. cylinder. The machine knits small designs on a single feed. The pattern can be started anywhere in the leg of the sock.

A 96-move pattern drum selects the needles by means of jacks. The cylinder oscillates about ¾ in. above the full 360° revolution and indexes 90 or 180°. The machine knits seven colors with elastic. (A-6)

### Needle Straightener

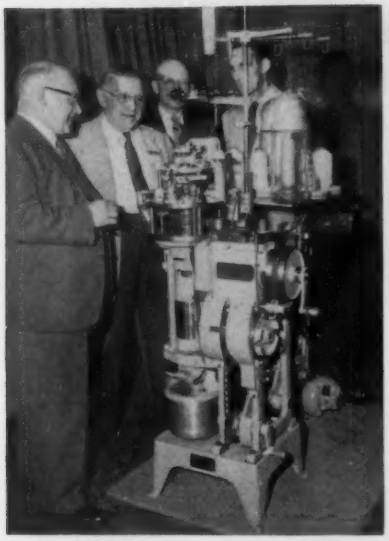
A needle-pliering projector, displayed by Alfred Hofmann & Co., West New York, N. J., was helping a girl straighten 200 needles per hour. A large image of the needle is cast on a screen and silhouetted against a true needle image.

The straightening is done by special instruments while the needle is held in a rotating clamp. A girl learns to operate the machine in four days. (A-7)

### Hosiery Conversions

Obsolete hosiery machines were brought up to date by May Hosiery Mills, Nashville, Tenn. A Scott & Williams and a Banner machine were converted to rib-top automatic hosiery machines with 1x1 and 2x2 rib tops.

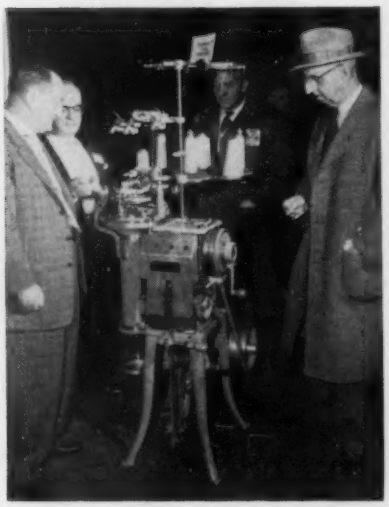
A special Cooper needle is used for the transfer. The dial is racked for the 2x2 make-up. A floating take-up is provided for the rib. (A-8)



### Seamless-Hosiery Machine

A 420-needle women's seamless-hosiery machine, shown by U. S. Hosiery Corp., New York, N. Y., was knitting 15-den. nylon on single feed at 190 rpm. The production from 30 machines running 24 hrs. per day for six days is 900 doz.

A take-up bucket helps to produce a streak-free hose. The first stocking is pulled through the take-up rolls, and the stockings are joined by a few courses of alginate yarn. **(A-9)**



### Two-Feed 500-Needle Machine

A women's hosiery machine with 500 needles on a 3¾-in. cylinder was shown by Morris Speizman Co., Inc., Charlotte, N. C. S-twist 15-den. yarn was run at one feed and Z-twist yarn at the other feed to produce a stretch stocking.

The fully automatic machine has an interned-welt device and runs at 180 rpm. **(A-10)**

### Two-Feed Children's Hosiery Machine

The Banner ARA machines, shown by Hemphill Co., Pawtucket, R. I., were equipped with two feeds. The machines produce a true-rib top. Production is 12 to 15% greater than on the single-feed machines.

The 130x3-in. machine had a picot-edge attachment and was making hosiery with tipped heels and toes. The machines operate at 165 rpm. **(A-11)**

### Seam-Free-Hosiery Machine

Four 400-needle seamless-hosiery machines were running at 195 rpm. at the booth of Fidelity Machine Co., Inc., Philadelphia, Pa. One machine was knitting 20-den. Agilon stretch yarn. Other machines were running 15-den. nylon in different styles.

The machine speeds are electronically controlled. A potentiometer works from cams of various heights to give various speeds in different parts of the stocking. One stocking was made on each machine each 15 mins.

The machines are individually driven and have electric needle protectors. **(A-12)**

### Rapid Stitch Counter

A device for counting stitches at the rate of 40 stitches per second was shown by Marvel Specialty Co., Paducah, Ky. A stocking is stretched between two sets of rubber rolls. Reading takes place on a dial when the fabric has reached a constant stretch.

A small pointer runs along the stitches over a 3-in. length and records the number of stitches on the dial.

The instrument is used for controlling lengths and selvages of hosiery. **(A-13)**

### Seamless-Hosiery Machine

Two seam-free-hosiery machines, with two feeds each, were shown by Hemphill Co., Pawtucket, R. I. The machines are known as the Hemph-Lon Kleer-Stitch. One machine was knitting mesh and the other plain 15-den. nylon.

The machines use the Hemphill principle of drawing the stitch over the back of the sinker nose to get a clear even stitch. **(A-14)**

CONTINUED ON PAGE 210



For more information, circle the A-number on Reader-Service post card.

### Four-Color Striper Machine

Model SAAF-C, exhibited by Supreme Knitting Machine Co., Inc., Brooklyn, N. Y., is a 32-feed machine with four-color stripers at each feed. Cloth was knitted with red, white, blue, and navy chest stripes in knit, tuck, and float designs. The 26-in.-dia. machine has a 128-end yarn table.

The 18-cut machine was knitting 18s yarn at about 35 yds. per hour. (A-15)

### Electronic Defect Finder

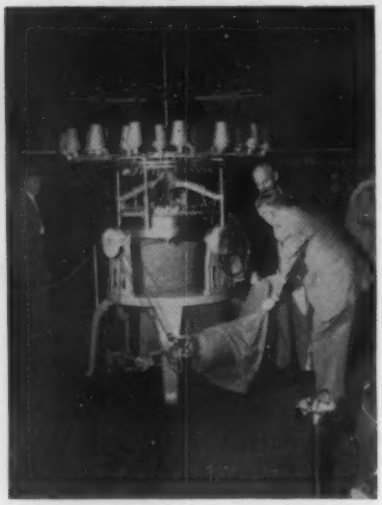
An electronic defect finder, demonstrated by Stop-Motion Devices Corp., Brooklyn, N. Y., works in conjunction with an electric eye. The electric eye is focused on fabric moving at a high speed.

When the beam of light strikes an imperfection on the moving cloth, the defect disrupts the beam and a current is sent to the controller attached to the clutch and brake to stop the machine. (A-16)

### Tension Compensators

Compensating devices for fluctuating yarn tensions were shown by Walter Kidde & Co., Inc., Belleville, N. J. The yarn compensators are fitted to the yarn guide ring.

The yarn runs over the top stop motion, to the compensator, and then to the needles. Tension is held constant regardless of yarn-speed variations, tightly wound packages, or diameter changes of the supply package. (A-17)



### Interlock Machine

A 24-cut interlock machine with 32 feeds was shown by Scott & Williams, Inc., Brinton Fabrics Machine Div., Laconia, N. H. The 30-in. machine knitted 38s cotton.

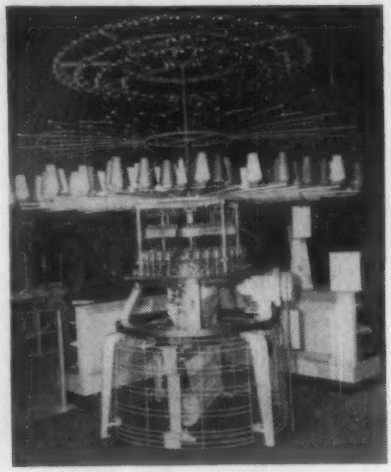
Rubber-covered rolls give a better grip to the fabric without injuring it. A Bijur automatic oiler keeps needles lubricated with a controlled flow.

Handwheels are provided on the front and back of the machine to allow knitters and fixers to check the needles more closely. (A-18)

### Flat Jacquard Machine

Model CJ, a flat machine for producing jacquard trims, was shown by Queens Machine Co., Brooklyn, N. Y. The machine has high and low butt needles and high and low jacks with a jacquard attachment on the back bed.

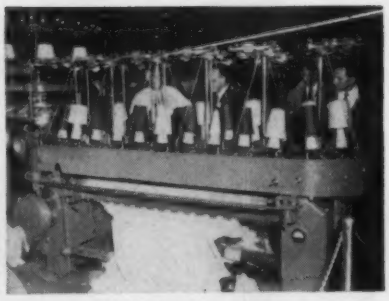
The 10-cut machine is single lock with four stitch settings and runs with six bars. (A-19)



### Four-Color Striper Machine

The 36-feed RSTY machine, shown by Scott & Williams, Inc., Brinton Fabrics Machine Div., Laconia, N. H., is equipped with four-color stripers on 32 feeds. The machine has a 128-end yarn table and a 26-in. dia.

Each feed has automatic tuck-bar equipment and three-position design wheels. The speed was 19 rpm., and 32 yds. or 16½ lbs. were produced each hour with 32/2 yarn. A chest-stripe pattern was knitted in four colors. (A-20)



### Double Needle-Bed Flat Machine

A flat machine with 12 feeds that work in a circular direction was shown by Tricoma, Inc., New York, N. Y. The machine has two V-beds 60 ins. wide. An automatic control at the end of the machine makes changes from rib to tuck and welt.

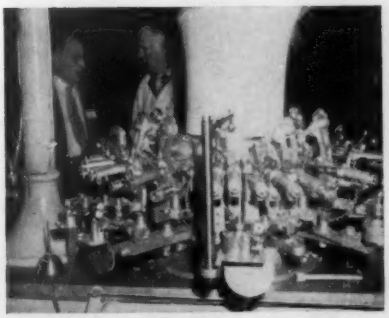
A mechanical cutting device cuts the yarns at the selvages and carries the yarn to the needle in the opposite bed. The 12 feeds on the 10-cut machine revolve at 10½ rpm. The needles have high and low butts. (A-21)

### Jersey Spring-Needle Machine

A spring-needle machine that produces jersey cloth at 90 rpm. was shown by Precision Knitting Machine Co., Syracuse, N. Y. The machine with 20 feeds was knitting 26s yarn. The 28-gauge machine was 22-in. dia.

The burrs and the cylinder run on ball bearings. The speed of the machine is adjustable from the pulley with a screw attachment at the machine front.

The yarn stop motions operate with a Micro switch. A fluorescent circular tube inside the cylinder lights up the fabric. **(A-22)**



### Spring-Needle Machine

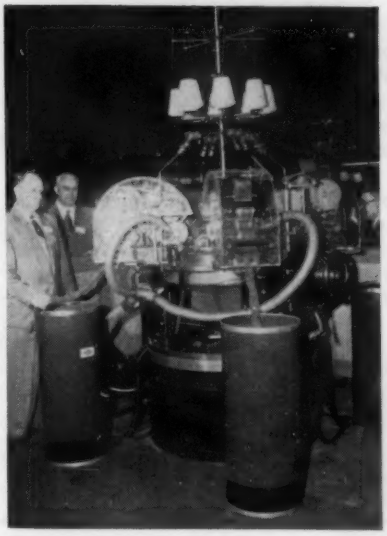
The D-3 machine, shown by Tompkins Bros. Co., Syracuse, N. Y., has a needle oiler that drops oil on a wheel fixed to a burr bracket. The wheel has a felt edge, and the oil seeps through the hole to the felt and is deposited on the needles.

A manual control allows the machine to be shut down from all points of the machine. A solenoid on the brake band allows for a more-rapid stop. A blow-off unit has been installed to keep the needles and burrs free from lint. **(A-23)**

### Rebuilt Rib Machine

A 1909 machine that had been brought up to date was shown by Scott & Williams, Inc., Brinton Fabrics Machine Div., Laconia, N. H. The machine was converted from an 8-feed to a 14-feed machine.

An individual drive and an air-cleaning unit with a filter was fitted. Crawford stop motions were installed. The 15-in.-dia. 14-cut machine rotating at 46 rpm. knits 32 yds. or 16½ lbs. of fabric from 30s cotton per hour. **(A-24)**



### Pile-Fabric Machine

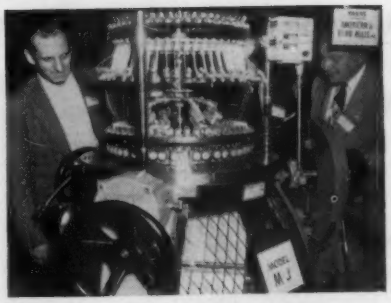
A pile-fabric knitting machine with four carding units at each feed was shown by Wildman Mfg. Co., Norristown, Pa. Orlon and Dynel 145-grain sliver was fed to the carding units. Dynel 30/2 was used for the backing.

An air blower pushes the pile away from the needles as the doffer sweeps the card web into the needle hooks. A suction box over the cylinder center takes up the excess lint and carries it away. **(A-25)**

### Fleece Knitting Machine

A 20-in.-dia. machine shown by Precision Knitting Machine Co., Syracuse, N. Y., knits double-plush fabric on seven feeds at 70 rpm. Stop motions are arranged under each of the seven cloth wheels.

An air blast is directed to the needles and operated to blow 6 secs. each minute from a control box. The control box also has an individual control for the top and bottom brake and clutch to eliminate backlash. **(A-26)**

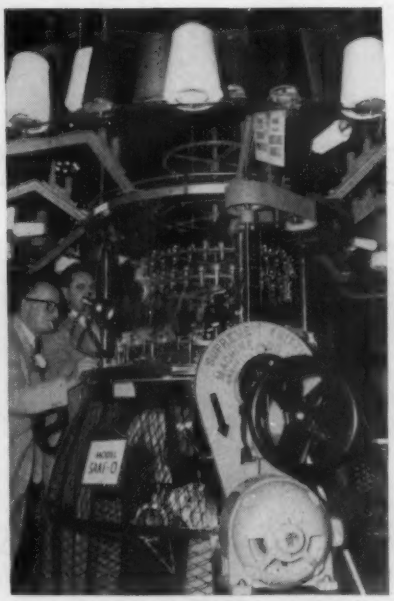


### Fine-Gauge Jersey Machine

A 34-cut model M. J. machine was shown by Supreme Knitting Machine Co., Inc., Brooklyn, N. Y. The machine used 70-gauge needles with 80-gauge hooks and knitted 50s yarn.

Jersey production on the machine is 54 yds. per hr.

A blow-off device for the needles and sinkers is fitted. Hole detectors and fabric-size control devices are installed. **(A-27)**



### Rubber-Trim Jersey Machine

Model SAAF-O, a 16-feed 12-cut jersey machine built by Supreme Knitting Machine Co., Inc., Brooklyn, N. Y., knitted 35 men's garment lengths per hour with a simulated rib trim.

Separating threads were knitted. The rubber yarn is controlled by rolls driven from a flexible drive shaft driven from the main shaft. Each roll delivers the same amount of elastic. Wide stripes are made with pattern-placer wheels. **(A-28)**



For more information, circle the A-number on Reader-Service post card.

## Underwear and Outerwear (Continued)

### V-Type Flat Machine

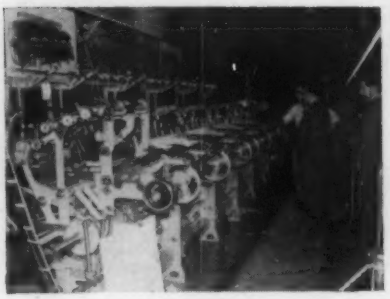
Model B, a flat knitting machine for producing collars, trims, and cuffs for full-fashioned sweaters, was shown by Queens Machine Co., Brooklyn, N. Y. The machine was knitting three sets of ribs at 36 courses per minute from 2/31s Orlon.

Jacks under the needles can be used for design work. Four yarn bars and carriers are controlled from both ends of the 60-in. needle bed. Rubber splined strips on the take-up roll provide better control for synthetic-fiber yarns. **(A-29)**

### Jacquard Sweater Machine

The TJ machine shown by Jacquard Knitting Machine Co., Inc., Philadelphia, Pa., was knitting tow-dyed high-bulk Orlon. The yarn was 1/29s and the machine gauge 13 cut.

A 1x1-rib-cuffed sweater was knitted. **(A-30)**



### Full-Fashioned Sweater Machine

The 21-gauge four-section sweater machine built by Robert Reiner, Inc., Weehawken, N. J., was knitting sweater fronts from Orlon yarn. The machine is fitted with filling-in points for widening.

The machine runs at 60 courses per minute with 28-in. needle bars and has no divider action. There are six carriers fitted. The sleeve machine has 32-in. needle bars and knits two sleeves on one bar. **(A-31)**

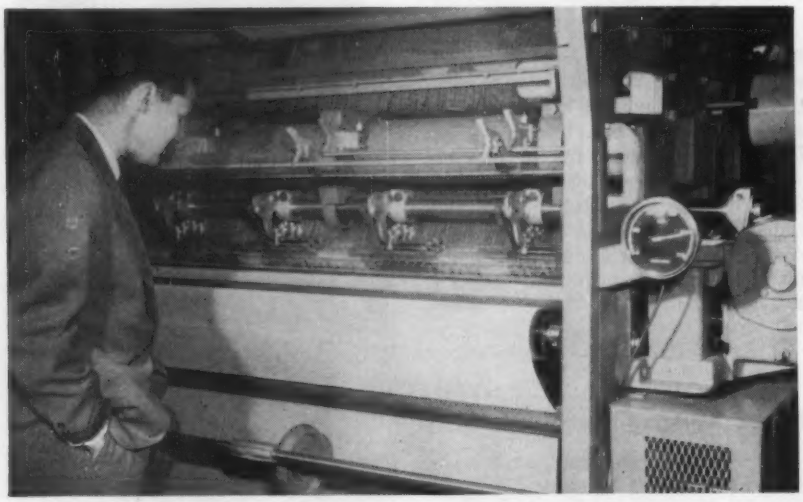
### Rib-Border Machine

A Schaffhouse V-bed machine, shown by Robert Reiner, Inc., Weehawken, N. J., knits three cuffs for full-fashioned sweaters at once. The cuff is knitted with double-lock cams; ravel course is knitted single course.

The cuff lengths are rapidly changed from a stud wheel. The needle bed racks over eight needles. There are four carrier bars, and the machine knits at 13 rounds per min. **(A-32)**

CONTINUED ON PAGE 216

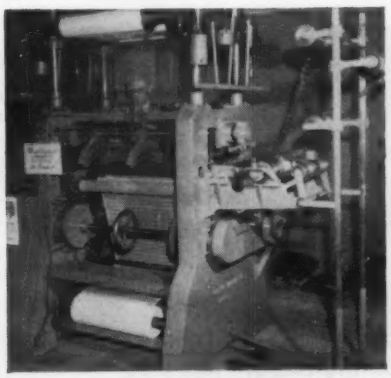
## Tricot and Raschel



### Raschel Machine

The Model E machine demonstrated by Kidde Mfg. Co., Inc., Bloomfield, N. J., cruises at 610 courses per minute as TEXTILE WORLD's Jim Blore looks on. The machine knitted four-bar power net with 100-den. nylon and 55s cotton-covered rubber. The 36-gauge machine has 56-gauge hooked needles.

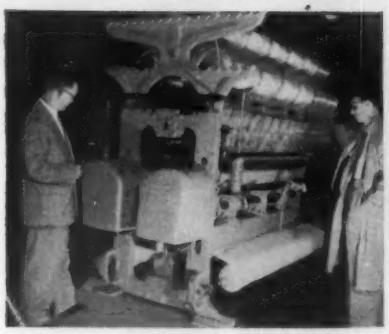
The steel needle and sinker bars have been replaced with magnesium bars, and the leads have been reduced in size. An extra roll on the fabric take-up gives a relaxed state of the cloth between the needles and the fabric roll-up device. **(A-33)**



### Sample Raschel Machine

A sample raschel knitting machine, shown by Queens Machine Co., Brooklyn, N. Y., was running six-bar lace edging at 200 stitches per minute. The 36-gauge machine was knitting 40-den. nylon and 300-den. rayon.

The machine has a double or single needle bar and has a standard 6-in. pattern drum with standard links that permits transferring of the pattern directly to the full-size machine. **(A-34)**

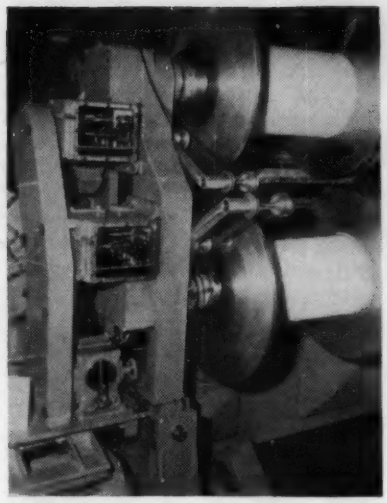


### Raschel Machine

A raschel machine that knits two pieces of fabric at one time was shown by Karl Lieberknecht, Inc., Reading, Pa. The needle bars are 6 ins. apart and both bars are synchronized to move together. Guide bars are independently driven, and two different fabrics can be knitted on one machine.

The take-up devices are individually operated and can be adjusted to give quality changes while the machine is running by turning a handle. The cams run in an oil bath. The needles are held to the bar with butts, and the knock-over bar is equipped with hardened-steel inserts that are readily removable.

The machine was running two-bar net from 40-den. 7-tpi. nylon at 375 courses per minute. The machine is 48 gauge and 104 ins. wide. **(A-35)**

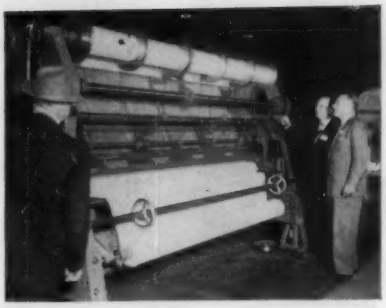


### High-Speed Tricot Machine

The Ultraspeed tricot machine, shown by Alfred Hofmann & Co., West New York, N. J., was operating as a two-bar machine at 800 courses per minute on 15-den. nylon.

A new let-off is controlled by a rubber band that works from the warp beam. The rubber band drives a pulley, which, in turn, controls the beam-drive cones.

A new fabric take-up with two rubber-covered rolls makes the take-up more positive. The back roll is driven, while the front roll is free on self-aligning bearings. **(A-36)**

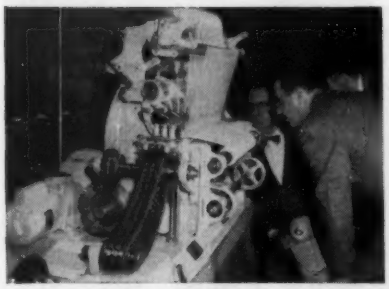


### Raschel Machine

A raschel machine specially designed for rubber fabrics was shown by Alfred Hofmann & Co., West New York, N. J. The 36-gauge machine was knitting four-bar power net of 60-core rubber and 100-den. nylon at 525 rpm.

The warp is positively driven by a bar over which the warp runs. The bar moves a bell-crank lever to control the warp-beam drive.

Cams and rollers run in a closed-in oil bath. The machine is equipped with sinkers that retain the latch-guard device. **(A-37)**

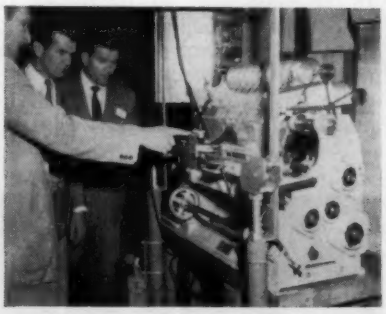


### Sample Tricot Machine

A three-bar sample tricot machine, shown by Bearing Products Co., Philadelphia, Pa., was fitted with a pattern chain.

The machine has a 21-in. needle bar. The model on exhibit was set up on 28 gauge to run 70-den. nylon on all three bars with a fancy design.

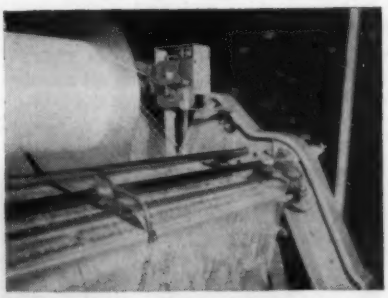
The needles have butts for easy replacement, and the pattern chain accommodates all lengths of chain from 16 links up. **(A-38)**



### Electronic Stop Motion

A photoelectric stop motion, shown by Photobell Sales Corp., New York, N. Y., was fitted to a sample tricot machine. The zinc-plated rail that holds the scanner can be removed in 15 secs. for threading in new warps. Two phototubes scan the fabric to eliminate fluttering at the selvages.

The scanner travels at 1 ft. per sec. The delay relay can be adjusted up to 45 secs. for various knitting speeds. **(A-39)**



### Tricot Machine

The Model E machine shown by Kidde Mfg. Co., Inc., Bloomfield, N. J., has a new-type let-off to control the runner lengths.

Length control is obtained by the following arrangement: Several threads on the selvage are run over a small tensioned bar. When the warp sheet pulls down the bar, a contact is made at a Micro switch. This contact actuates a small motor that increases the speed of the warp-drive control.

The device for the top warp is at the right side of the machine, and the bottom warp control is at the left side. **(A-40)**



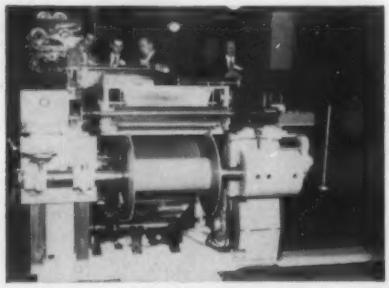
For more information, circle the A-number on Reader-Service post card.

### Nylon-Bonding Unit

A nylon-bonding attachment for winders was shown by Oscar Heineman Corp., Chicago, Ill.

Continuous-filament or spun-synthetics yarn is bonded by a set of jaws under heat and pressure. The bond can be dyed the same color as the regular yarn.

The bonding agent can be supplied by Oscar Heineman. With the attachment, large knot-free packages can be wound. (A-41)



### Tricot Warper

Electric-operated brakes are one of the features of a tricot warper shown by Cocker Machine & Foundry Co., Gastonia, N. C.

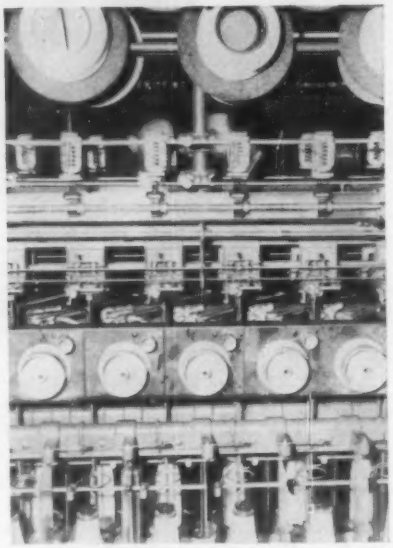
Other features are:

1. Beams are doffed by air. The beams are lowered gently to the floor, where the operator rolls them out. The operator does no lifting, and the beams are not damaged by rough handling.

2. The beam density is controlled by an air-operated presser roll. (A-42)

### High-Speed Ring

A conical ring for light-denier synthetics, filament or spun, was shown by Herr Mfg. Co., Inc., Buffalo, N. Y. Speed with a 4¾-in. ring compares with the speed on a 4-in. ring. Other features are controlled lubrication, reduced yarn soiling, and fewer ends down and broken filaments. (A-43)

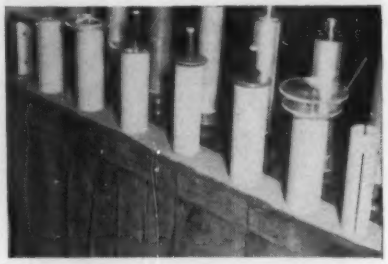


### High-Speed Doubler

A new 2-lb. downtwister was putting 1 tpi. in 40-den. Dacron at 8,000 rpm., with the yarn being lubricated at the same time, at the booth of U. S. Textile Machine Co., Scranton, Pa. Up to 1.8% of oil can be put in with a variation of ± 0.2%. The machine can also be used as a conventional high-speed doubler. (A-44)

### Stretch-Yarn Tensions

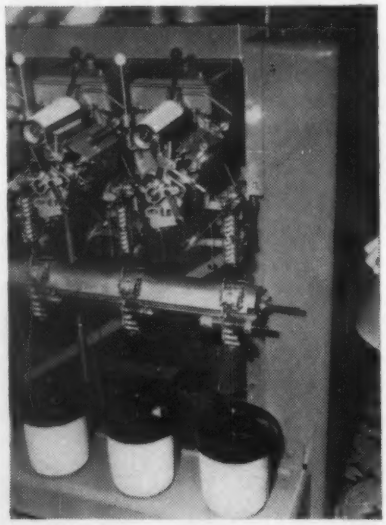
Tension devices for stretch yarns were shown by Synthane Corp., Oaks, Pa. One device is a redraw-tube holder with crisscrossed nylon bristles that maintain even tension on the yarn as it is pulled off the package. Other tension controls include a redraw cap with a Dacron "tent," redraw cap without a tent, and caps for cones. (A-148)



### Stretch-Yarn Tensions

A number of improved tension caps and other devices designed to keep stretch yarns from kinking while being pulled off the package were shown by Engineered Plastics, Inc., Gibsonville, N. C.

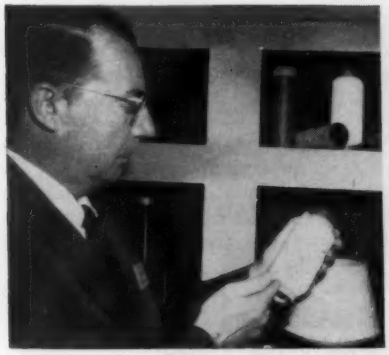
From left to right in the front row are a chuck arbor adapter for tubes, two acrylic tension draw-off caps, a draw-off cap with AlSiMag ring, a phenolic cap with AlSiMag ring, a double cap, and a tube holder. (A-45)



### Filament Winder

The Monofil-Coner, shown by American Schweiter Co., Whitinsville, Mass., is good for winding textured yarns and general filament winding in throwing plants and hosiery mills. An open-winding system called Penta is used, and compensating tension devices are standard equipment. The package ends can be changed by changing metal bows.

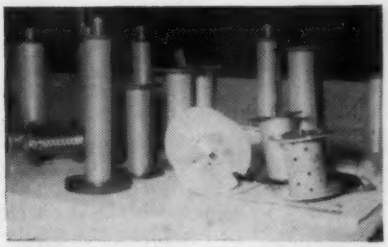
A four-step pulley drive gives spindle speeds of 1,650, 1,380, 1,100, and 875 rpm. (A-46)



### Stretch-Yarn Tubes

Spiral-wound tubes in seven colors for use with stretch yarns were shown by Sonoco Products Co., Hartsville, S. C. The carriers are thin-walled, parchment-covered, and inexpensive.

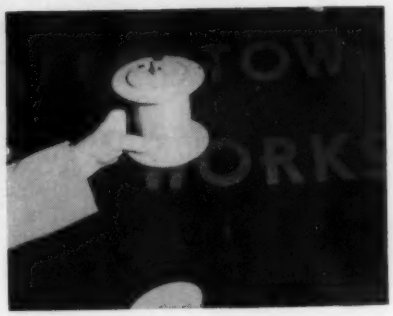
A series of convolute tubes with colored tips for identification purposes was shown also. (A-47)



### Twister Bobbin

Twister bobbins for processing stretch yarn were shown by Acrometal Products, Inc., Minneapolis, Minn. The bobbins are equipped with phenolic-resin or metal flanges. The bearing is made from tough epoxy resins and designed to maintain a high degree of accuracy even when subjected to high tensions.

Acrometal products also showed perforated stainless-steel bobbins for dyeing yarn and bobbins with cold-welded transfer rings. (A-48)



### Take-Up Bobbin

A take-up bobbin for conditioning Helanca and other nylon yarns was shown by Allentown Bobbin Works, Inc., Allentown, Pa.

Practically one-piece construction results from heads brazed to barrels. This construction eliminates the need for felt washers to prevent yarn traps, the manufacturer claims. (A-49)

CONTINUED ON PAGE 218

## Fiber and Yarns

### Stretch Nylon Yarn

A stretch nylon that knits dead and comes alive in finishing was shown by Grove Nylon Co., Scranton, Pa. Called Gro-Lon, the yarn is made in 15-den. monofilament and 30-den. 10-filament yarn. No oiling is necessary, and the stocking comes off the machine like a regular stocking. No tension devices are needed for full-fashioned or two-feed seamless machines.

A combination Taslan-Helanca yarn was also shown by Grove. This yarn gives a good body and a cashmere-like hand. (A-50)

### Cotton-Nylon Yarn

A stretch yarn consisting of one nylon end twisted with one cotton end was featured by Sellers Mfg. Co., Saxapahaw, N. C. (A-51)

### Acrilan Yarns

A new line of Acrilan yarns for sweaters was shown by Comer-Avondale Mills, Inc., New York, N. Y. (A-52)

### Stretch Combination Yarns

Richard C. O'Brien, Philadelphia, Pa., showed three core-yarn combinations: (1) wool and stretch nylon made by Cheney Bros. and Stanley Mills, (2) cashmere and stretch nylon made by Cheney Bros., and (3) nylon and stretch nylon made by Cheney and Stanley. An unbalanced flake-yarn combination made by Aldon Mills was also shown. (A-53)

### Nylon Mylast

A stretch, crimped nylon yarn called Nylon Mylast was shown by Clarence L. Myers & Co., Philadelphia, Pa. The yarn is used in half-hose or outerwear and is available in colors. (A-54)

### Sweater Yarn

A yarn made of an Acrilan-Vicara blend was shown by Caron Spinning Co., Rochelle, Ill. It provides bulk without weight and has a soft hand. Other characteristics: it is washable and resilient and has resistance to mildew and moth damage. (A-55)

### Deep-Dye Nylon

A nylon yarn of different chemical structure that is more receptive to dyes was presented by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y. Two-tone effects in one dye bath can be obtained in fabrics made from older-type nylon combined with the new yarn. (A-56)

### Improved Knitting Yarn

A cotton knitting yarn known as H-54, said to be new from spinning through chemical treatment, was introduced by Aberfoyle Mfg. Co., Philadelphia, Pa.

It is reported that the yarn has better yield, evenness, elasticity, and clarity of stitch and that it tends to be wrinkle-resistant. (A-57)

### Wool-Like Cotton Yarns

Cotton yarn with wool or worsted appearance knitted into argyle socks was shown by Cannon Mills, Kannapolis, N. C. (A-58)



For more information, circle the A-number on Reader-Service post card.

## Fiber and Yarns (Continued)

### Novelty Yarns

A variety of novelty yarns was shown by Hohenberg Co., Inc., New York, N. Y. These yarns included cashmere combined with Helanca, Angora fur blended with lamb's wool, and multicolored slub yarn made in worsted. (A-59)

### High-Bulk Yarns

Turbo high-bulk Orlon and Acrilan yarns for sweaters and Agilon stretch yarns for hosiery were shown by American Thread Co., Newark, N. J. (A-60)

### Nylon-Core Stretch Yarn

A nylon-core, cotton-covered stretch yarn for half-hose and underwear was featured by American & Efird Mills, Inc., Mt. Holly, N. C. This company also offered a worsted-nylon combination for argyle socks. (A-61)

### Metallized Yarn

A metallized knitting yarn, Metlon with Mylar, was shown by Metlon Corp., New York, N. Y. The yarn can withstand temperatures up to 300° F. and can be used with Orlon, Dacron, and nylon. It resists dyes and bleaches and can be used in machine-washable fabrics. The yarn can be used on all types of knitting machines. (A-62)

### Stretch Yarn

Oscar Heineman Corp., Chicago, Ill., showed its stretch nylon, called Hei-Stretch. The yarn is thrown for stretch-stocking knitting. (A-63)

### Metallic Yarn

Lurex Mylar, a metallized yarn, was shown by Dobeckmun Co., New York, N. Y. The yarn has high film strength, ability to withstand high temperatures, and resistance to dyes and stains. It can be run on tricot and raschel machines. (A-64)

### Flexcel

A combination yarn of 40% cotton and 60% stretch nylon, called Flexcel, was shown by Kahn & Feldman, Inc., New York, N. Y., in cooperation with Pen Wilson Co., selling agents for Kahn & Feldman. The stretch nylon is thrown by Kahn & Feldman; then Pen Wilson twists the combination yarn. The yarn is used in half-hose. (A-65)

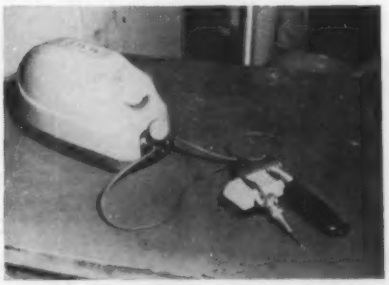
### Hosiery-Top Elastic

An elastic top for stretch hosiery was shown by United Elastic Corp., Easthampton, Mass. Tiny rubber tracks in the top are designed to hold the hosiery firmly in place and eliminate the need for garters. (A-66)

### Stretch Yarn

Dyna-Loft, a stretch nylon made in a one-step operation, was shown by Leon Ferenbach, Inc., New York, N. Y. The yarn is used in full-fashioned stockings and circular outerwear. It has 400% stretch and is clean and white. Dyeing is uniform, and a fabric free of rings and streaks is produced. The yarn is shipped on a 2-lb. knotless package. (A-67)

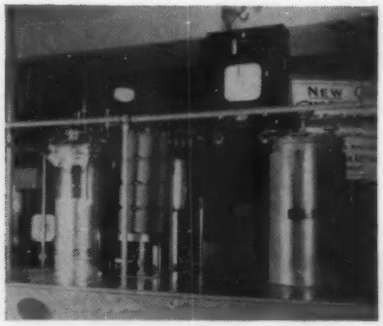
## Dyeing and Finishing



### Mending Machine

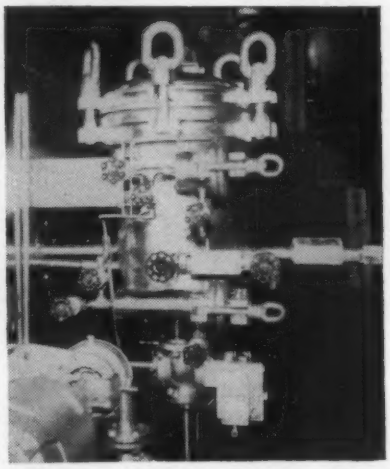
The Suma-Velox mending machine shown by Stanford Marley Distributing Co., New York, N. Y., is equipped to operate as a batcher or run-repair unit. Change-over to either operation is quick and simple.

The machine operates at speeds up to 4,000 stitches per minute, has no rotating parts, and is adjustable for fine deniers and seamless hose. It is supplied with one vacuum needle for sheer and seamless stockings, one Velox needle for 51- to 54-gauge hose, and one SU-11 run-repair device. (A-68)



### Package Dryer

A drying machine featuring recirculated hot air that can dry 18s singles cotton-yarn packages weighing 1¼ lbs. in 50 mins. was presented by Smith, Drum & Co., Philadelphia, Pa. The dyed packages are extracted and dried on the dyeing carriage, which is hoisted from the dyeing machine and lowered into the dryer. Recirculation of air eliminates dirty yarn because the filtering effect is greatly reduced. Automatic temperature control is provided. (A-69)



### Sample Dyeing Machine

A separate compartment to carry a swatch has been added to the sample pressure-dyeing machine shown by Burlington Engineering Co., Inc., Graham, N. C. The improvement, now included on regular-size machines, provides greater accuracy in shade matching. (A-70)

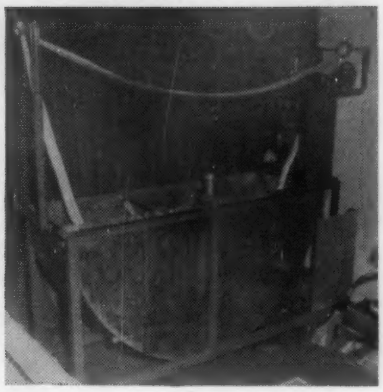
### Boarding Machine

An electrically heated boarding machine that utilizes radiant and convected heat was shown by Philadelphia Metal Drying Form Co., Inc., Philadelphia, Pa. When the machine is used for preboarding, radiant heat is employed to set the hose. For final boarding a blower provides air circulation to speed drying. Various weights of hose can be handled, and time of exposure to the heat can be set to meet the required conditions. Capacity is 150 doz. per day on final boarding and up to 300 doz. per day on preboarding. (A-71)

### Preboarding and Boarding Machine

The Sarco preboarding and boarding machine shown by Morris Speizman, Co., Inc., Charlotte, N. C., has two sets of infrared heating elements. The machine produces about 275 doz. preboarded goods in 8 hrs. and 180 doz. boarded goods.

The machine is adjusted to the speed of the operator, and the controls can be set to a fine degree. The forms are spaced so that one form is in the heated area while the next is in a cooled area. (A-72)

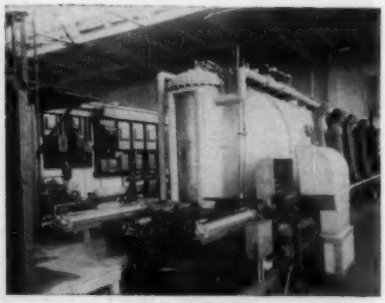


### Semicircular Tank

A semicircular stainless-steel tank for bleaching, dyeing, or finishing knitted tubular fabrics was shown by Kennett Equipment & Machinery Co., Kennett Square, Pa.

The machine, which can be used as a single unit or in tandem with other units, is equipped with three immersion rolls on a rack guide and with a 9-in. wringer geared for pressure adjustments. The tank is made of 16-gauge stainless steel and has a perforated partition enclosing the steam-heating unit.

The half-circular shape of the machine prevents the goods from piling up and becoming entangled. (A-73)



### Electrocolorset Dyeing Machine

A completely automatic continuous-process machine that will set, dye, and finish knitted garments was demonstrated in a movie shown by Proctor & Schwartz, Inc., Philadelphia, Pa. The first machine built is for hosiery.

Featured is electronic measurement and control of dye shade and intensity. As dyeing progresses, a spectrophotometer reads the color every 12 secs.; if shade varies in tone or depth, the required dye or dyes are admitted to the dye vat from three stock tanks containing primary-color dyes. After formulas have been established, repeats can be set up from dial readings obtained from the control panel.

Dyeing is carried on at 7- to 30-lbs. pressure in a pressure vessel equipped with air locks that permit a continuous flow of loaded forms in and out of the pressurized area.

Production is rated at 100 to 120 doz. pairs of hosiery per hour. (A-74)

### Automatic Dryer-Conditioner

An improved model of the H-W Conditioner made by Industrial Dryer Corp., Stamford, Conn., was shown. Three clocks control the preheating, conditioning, or drying times; and automatic control of dampers, wet heat, or dry heat is provided.

Relative humidity can be set to any desired point for conditioning yarn or hosiery. Dampers are opened for drying and closed for preheating or conditioning by the control system. The machine will dry or condition cotton, silk, wool, and all synthetic yarns in various forms and is also used in setting nylon hosiery. (A-75)

### Knit-Goods Softener

A softener for circular knit goods that also gives body was announced by Leatex Chemical Co., Philadelphia, Pa. The new product does not affect whites and may be applied in a beck or pad. It is marketed under the name Staysoft. (A-76)

### Mixing Propeller

A stainless-steel claw-type mixing propeller, said to reduce mixing time of fluids by 50%, was shown by Kennett Equipment & Machinery Co., Kennett Square, Pa. (A-77)

CONTINUED ON PAGE 224



For more information, circle the A-number on Reader-Service post card.

### Automatic Binding Cutter

A spiral binding cutter that can handle various weights of plain or rib-knit fabric was shown by Utica Novelty & Mill Specialty Co., Utica, N. Y.

Circular-knit fabric is fed to the machine, and the spiral binding is wound to predetermined lengths on wooden spools. The machine stops when the required yardage has been wound on the spool. Three or four machines can be tended by one operator. (A-78)

### Thread-Splitting Roll

Used in conjunction with the Trim-Master argyle-sock trimmer shown by Ginsberg Machinery Co., New York, N. Y., is a thread-splitting roll that has three loop openers to catch jumper threads. The machine operated by hand trims 15 to 16 doz. socks per hour. (A-79)

### Serging and Seaming

Serging and seaming is done in one operation by a machine known as 1402-A1 shown by Willcox & Gibbs Sewing Machine Co., New York, N. Y.

This machine makes a combination of Federal specification stitches 401 and 506 at the same time with four threads. (A-80)

### Edging Machine

The S2 cut-after edging machine, shown by Reece Corp., Waltham, Mass., provides a speedy way to finish strap ends and bands and to join two ends together. The machine automatically sews to exact length, trims the thread with no loose ends, and cuts off excess material. (A-81)

### Seamer Attachments

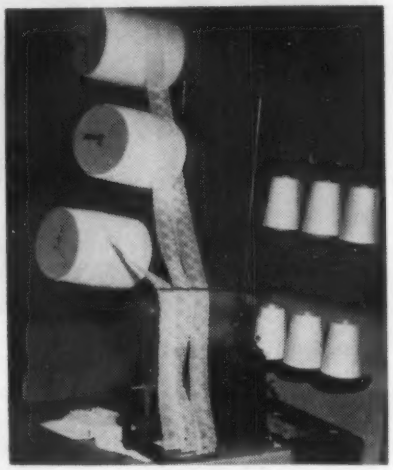
Attachments to convert the Singer 242-2 seamer into a special machine for seaming stretch-nylon hosiery were shown by Singer Sewing Machine Co., New York, N. Y.

Parts include a fabric guide, needle guide, changing finger, puller feed-roller bracket and chain-cutter knife-holder unit, and a needle-thread guide. (A-82)

### Argyle-Sock Trimmer

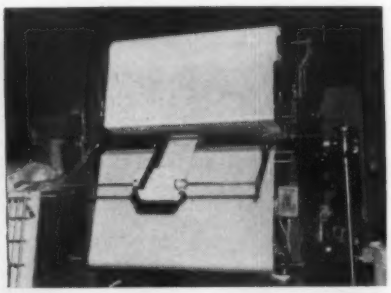
An improved rotary argyle-sock trimmer called Trim-Master was demonstrated by Ginsberg Machinery Co., Inc., New York, N. Y. It is said to have a production of up to 240 doz. per operator per 8-hr. day.

Operation is automatic. The operator slips a sock over the mandrel and removes it trimmed. The machine can be operated with standard suction turbines or as a self-contained unit. (A-83)



### Multiple Ruffler

A multiple ruffler that sews, ruffles, and hems three rows in one operation was featured by Peerless Sewing Machine Co., New York, N. Y. The machine is said to be especially suited to sewing lace ruffles on knit goods. The quantity of ruffles is adjustable. (A-84)



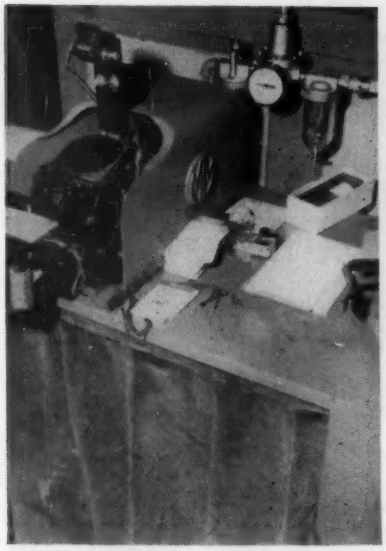
### Pleating Machine

A pleating machine operating on nylon but designed to be used on many fabrics was shown by Chandler Machine Co., Ayer, Mass. In addition to pleating, the machine scallops and flares.

Several attachments make it possible to change the processing of the fabric being finished so that seasonal style changes are easily made. (A-85)

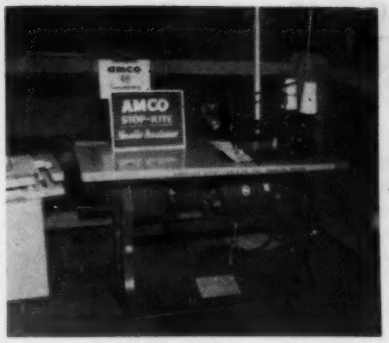
### Imprinting Machine

An automatic tag- and label-imprinting machine was shown by A. Kimball Co., New York, N. Y. The machine prints from 6- to 36-point type and 1 to 23 lines of copy on all types of paper stocks. A knife cuts off each individual label. (A-86)



### Piped-Buttonhole Machine

The Reece PB piped-buttonhole machine, shown by Reece Corp., Waltham, Mass., converts a slow hand operation to high-speed, automatic production. It operates with automatic electrical timing of hydraulic and mechanical motions. (A-87)

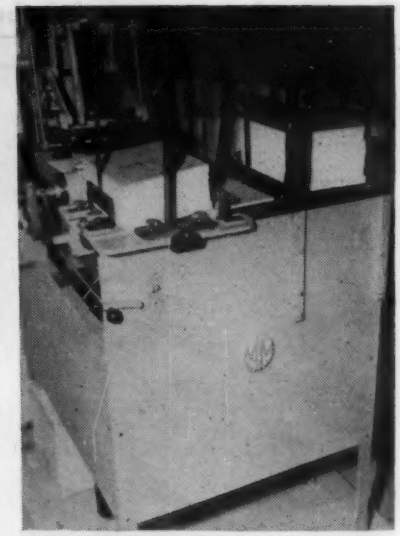



### Needle Positioner

A needle positioner, said to increase production by more than 30% in several sewing operations, was shown by American Safety Table Co., Inc., New York, N. Y.

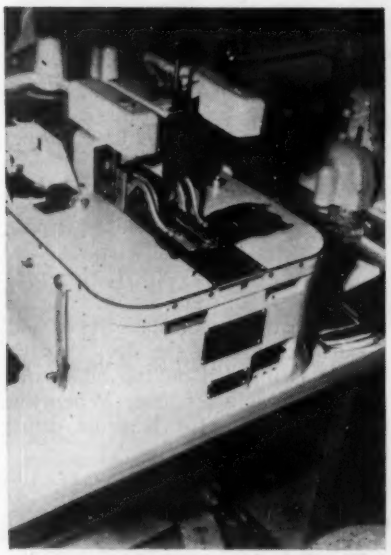
When the positioner is used, the sewing operator does not have to reach for the handwheel to position the needle; the operator keeps both hands on the work to improve the quality of the work and the output.

A direct-drive auxiliary motor provides positive needle positioning. The device can be used on most sewing machines. (A-89)



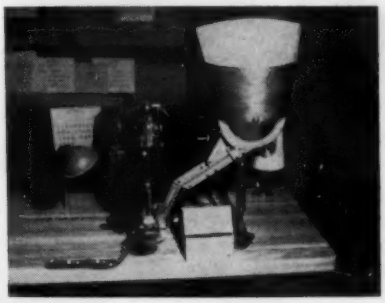
### Hosiery-Box-End Printer

A prototype machine of a hosiery-box-end printer, called Model 45 AL, was shown by Markem Machine Co., Keene, N. H. The end printing is done by hand one at a time, but this machine does the work automatically. Size, style, color, etc. are printed on the end of the box. A stack of boxes feeds through and is restacked on the other side. (A-92)



### Eyelet Machine

A Series 101 round-eyelet machine was shown by Reece Corp., Waltham, Mass. The machine produces a wide range of stitched eyelets for utility and ornamentation. Three models are available: Model S, pinhole to $\frac{3}{32}$ in.; Model M, $\frac{3}{32}$ to $\frac{11}{32}$ in.; and Model L, $\frac{3}{8}$ to 14/32 in. (A-88)



### Automatic Button Feeder

Buttons were dumped into the hopper of a button feeder and fed in exact alignment under the needle of a button-sewing machine at the booth of Emsig Mfg. Co., New York, N. Y.

After the buttons are dumped into the hopper, they aren't touched by hand. (A-90)

### Zig-Zag Machine

The Pfaff Model 138 zig-zag machine was shown by S. Bolder & Co., Inc., Philadelphia, Pa. An attachment allows the sewing of straight or zig-zag stitches with the turn of a dial. Cams for different patterns are easily interchangeable. (A-91)

### Automatic Labeler

A labeling machine that feeds, prints, and heat-seals 1-in. labels to shirts, underwear, linens, or other soft goods or to cellophane-packaged goods was shown by Soabar Co., Philadelphia, Pa. Special feeds to use 1½-in. or 2-in. tickets are available. Equipment includes a type case, an assortment of six-point and seven-point type, ink, oil can, and dust cover. (A-93)



For more information, circle the A-number on Reader-Service post card.

## Cutting, Seaming, and Labeling (Continued)

### Hosiery Marker

A new feeding device for the wax-transfer type of hosiery markers was shown by Paramount Textile Machinery Co., Chicago, Ill. The transfer tape actuates the feeding mechanism by means of a roll that is lifted by the wax lettering on the tape. Roll motion is communicated to a Micro switch attached to the motor of the feeding mechanism. Perfect register regardless of varying humidity conditions is claimed for the new device. (A-94)

### High-Speed Sewing Machine

A high-speed sewing machine called the Rockette was shown by Singer Sewing Machine Co., New York, N. Y. This machine accelerates up to 5,000 stitches per min. in ½ sec. and is said to produce a straighter, stronger, and more-uniform stitch. (A-95)

### Overedgers and Overseamers

High speeds and automatic lubrication are featured in the redesigned line of Class M overedging and overseaming machines shown by Merrow Machine Co., Hartford, Conn.

The machines operate at speeds up to 5,500 stitches per minute. A twin-pump automatic lubrication system assures proper distribution of oil, and there are no wicks to dry out.

The Class M line has machines that make a one-, two-, or three-thread stitch in several widths. Stitch is varied by changing needle plates.

Available attachments include cutters, edge guides, tape or cord inserters, intermittent shirrers, narrow edgers, and hemmers.

In addition, there was a shell-stitching machine that produces decorative edges in three widths. (A-96)

### Seaming Machine

An improved Flatlock seamer with automatic lubrication was shown by Willcox & Gibbs Sewing Machine Co., New York, N. Y.

This seamer produces U. S. standard stitch, Type 606, for knitted underwear at sustained speeds of 4,000 stitches per minute. Features include a new thread-guide separator, a locking mechanism, and an adjustable loop holder. (A-97)

### Bar-Tacking Machine

A Lewis automatic trimming and bar-tacking machine was shown by S. Bolder & Co., Inc., Philadelphia, Pa. The machine, which has no treadles, works when the operator steps on a button. An electromagnetic control starts and stops the machine automatically, and the thread is cut when the operator raises her foot from the button. To keep maintenance costs down, the machine has a brake to slow the unit down at the end of the cycle. (A-98)

### Label Applicator

A machine for the automatic application of Prestomark labels was shown by Kaumagraph Co., Wilmington, Del. Labels can be applied to work clothes, underwear, knitwear, dry goods, heavy outerwear, and children's wear.

The magazine capacity is 1,000 labels, and maximum operating speed is 1 sec. Hydraulic pressure and heat are used to make the seal. (A-99)

### String-Tag Printer

The Model 70 AH string-tag printer was shown by Markem Machine Co., Keene, N. H. Features are a quick change of the information (from electros or printer's type) and a quick change of tag size. A pack of tags is inserted on the table, and then the table is dropped. When the pack is finished, the machine stops. (A-100)

### Overlocking Attachment

The Pola Gauge attachment, a device to eliminate bar tacking, extra handling, and trimming, was shown by Pola Enterprises, Inc., Moorestown, N. J. The device, which swings out of the way when not in use, fits Merrow, Willcox & Gibbs, and Singer machines. It is said to produce stronger seams than bar tacking. (A-101)

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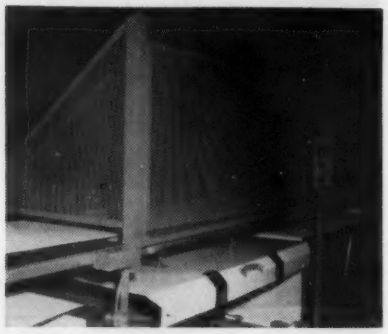
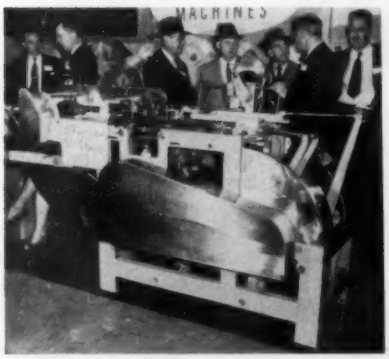


### Automatic Conveyor Press

A conveyor press for knit goods was shown by New York Pressing Machinery Corp., New York, N. Y.

The press, known as Ultramatic, is adaptable to press single open garments that can be steamed, shaped, pressed, and dried automatically. The press handles folded garments, 12 per lay, so that they can be boxed directly from the conveyor.

Production is 1,000 doz. per day, depending upon the type of garment. Three to four girls normally operate the press. (A-102)



### Wrapping Machine

Several improvements to its automatic wrapping machine were demonstrated by Hayssen Mfg. Co., Sheboygan, Wis. The four principal improvements are:

1. A more-positive feed for placing the wrapping material in position for packaging.
2. A roller-type heat-sealing motion that works with Pliofilm, Vitafilm, cellophane, or polyethylene wrapping material.
3. An overhead ejector to move the package through the sealing unit.
4. A ram assembly with a shortened stroke to speed up packaging. (A-103)

### Stretch-Sock Forms

A device called the Inserta-form was shown by Edley Machine Co., High Point, N. C. The device allows cardboard forms to be rapidly inserted in stretch socks for neat display purposes.

The device is a hollow form. A cardboard is placed in the form, the sock is stretched over the form, and then both sock and cardboard are withdrawn from the form. The sock and cardboard are again inserted in the form, and a second sock is pulled over the form to make one pair on the form. (A-104)

### Hosiery-Examining Form

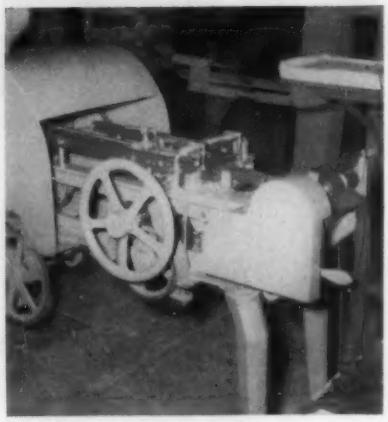
An automatic expanding examining form for fine-gauge hosiery was shown by Textile Machine Works, Reading, Pa. Production over the hand-operated form is doubled.

The machine is air-operated and electrically controlled. The machine can be quickly changed for conventional finishing methods or for Dunn System treatment.

The stockings are examined wrong side out and are automatically turned as they are removed from the machine. (A-105)

### Tramp-Metal Detector

A fabric was run through an instrument to detect tramp-metal objects at the booth of Radio Corp. of America, Camden, N. J. The instrument automatically finds foreign material of all kinds, both magnetic and nonmagnetic. (A-106)

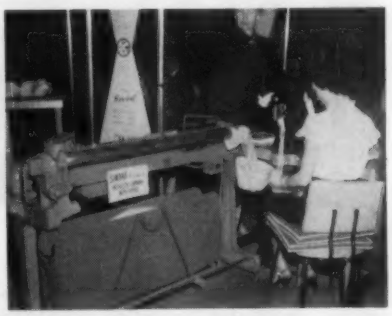


### Cuff Cutter and Folder

A machine for cutting and folding cuffs for gloves, mittens, and outerwear was shown by J. A. Firsching & Son, Inc., Utica, N. Y. The machine, completely automatic, is motor-driven and has sealed-in ball bearings. It handles circular or sewed cuffs and can cut and fold various lengths and widths of cuffs. It cuts and folds 42 cuffs per minute. (A-107)

### Stainless-Steel Truck

A knock-down stainless-steel truck was shown by Kennett Equipment & Machinery Co., Kennett Square, Pa. The truck is equipped to take any type of caster with 3-in. bolt centers. (A-108)



### Hosiery-Turning Machine

A turning machine that works in conjunction with a seaming machine was exhibited by Morris Speizman Co., Inc., Charlotte, N. C. The machine uses no air and eliminates static as the goods are stacked.

An 11-sec. cycle helps to incite the seamer to higher production. The goods are piled loosely for handling. (A-109)



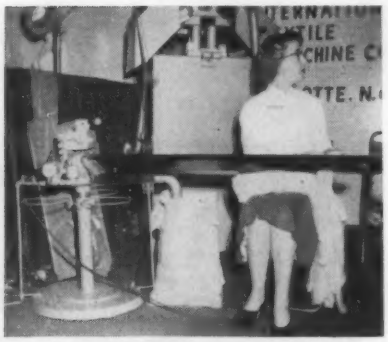
For more information, circle the A-number on Reader-Service post card.

### Automatic Inspection

An automatic thread-cutting and inspecting machine was shown by Somerset Knitting, Inc., Plessisville, Que. Two operators are required to run the machine; one puts on the hosiery, and another person inspects them.

The machine is designed to cut the threads from men's and children's socks and women's hosiery. Trimming and inspecting 600 doz. pairs of hosiery in an 8-hr. day is possible, the manufacturer says.

The price of the machine is $6,000. If an automatic-turning device is included, the price is $6,300. **(A-110)**



### Hosiery-Inspecting Machine

The automatic gray-inspecting machine, built by Specialty Manufacturers & Sales Co., Acworth, Ga., operates from a 45- to 85-psi. air supply. Stockings are turned and inspected and delivered to a bag for Dunn System finishing.

The machine can be operated from the right or left side in a sitting or standing position. The stocking is drawn through the form and turned. A foot pedal operates the machine, and the stockings are counted. The machine sells for $475. **(A-111)**

### Floating-Bottom Truck

A floating-bottom all-purpose truck with what is said to be damageproof lacquer on the interior surfaces was displayed by National Vulcanized Fibre Co., Wilmington, Del. The truck is fibre except for the floating bottom, which is hardwood. **(A-149)**

### Blocking Press

A blocking press with a cold wooden head to impart a fluffy finish to garments was exhibited by New York Pressing Machinery Corp., New York, N. Y. **(A-150)**

### Knitwear Packages

Cellophane envelopes, box wraps, tissues, and other packaging materials for stretch socks and other knitted items were shown by Lassiter Corp., New York, N. Y. **(A-112)**

### Foil Hosiery Packages

Foil envelopes for women's hosiery were shown by E. W. Twitchell, Inc., Philadelphia, Pa. **(A-113)**

### Hosiery-Inspecting Machines

Three hosiery-inspecting machines were shown by Southern Textile Machinery Co., Inc., Paducah, Ky.

Model 4000 allows an inspector to check and turn 238 doz. pairs of full-fashioned stockings in 8 hrs.

Model 6000 doubles the production from hand-operated forms. The form expands and contracts, and the stocking is drawn through the form and turned.

Model 5000 is designed for women's seamless hosiery. The form does not expand and collapse. The stockings are stacked or placed in a bag. **(A-114)**

### Reinforced Canvas Basket

Doffing baskets with U-rods at all four corners were shown by Steele Canvas Basket Co., Inc., Cambridge, Mass.

The double-end U-rods are said to stand any rough handling given the baskets without damage to the basket. **(A-115)**

## Shown in Chicago

The following equipment and supplies on display at Atlantic City were also shown at the National Packaging Exposition in Chicago earlier in April. For more details about these items, see pages 128-131.

### Bag Packager

A bag packager that uses a stream of air to open the bag while the operator inserts the material to be packaged was shown by Errich International Corp., New York, N. Y.

### Knitwear Packages

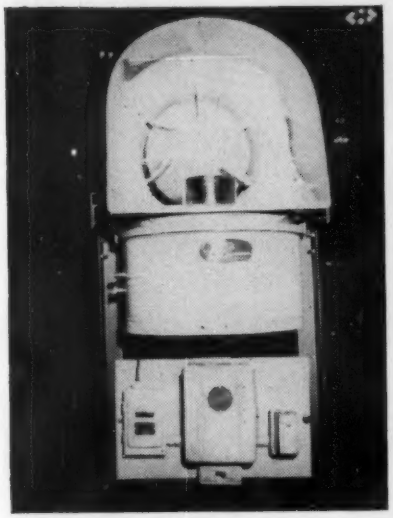
Polyethylene bags for packaging knitted items were shown by Bemis Bro. Bag Co., St. Louis, Mo.

### Combination Sheeter Gluer

A machine that glues, cuts, and conveys cellophane and allows banding or wrapping during intermittent stops was shown by Miller Wrapping & Sealing Machine Co., Chicago, Ill.

### Bagging Machine

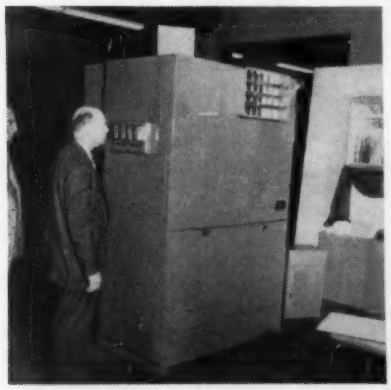
A machine that uses air to blow plastic bags open for inserting knitted items was shown by Tele-Sonic Packaging Corp., New York, N. Y.



### Ceiling Humidifier

A redesigned humidifier, Model No. 30, was demonstrated by Walton Laboratories, Inc., Irvington, N. J. The unit is especially designed for buildings with high ceilings.

The evaporating capacity of the unit is 3 gals. of water per hour. The design is flexible so that outside air can be moved through the unit or a combination of outside and inside air can be used. If the humidifier is installed as an independent unit, inside air is recirculated. (A-116)



### Air-Conditioning Unit

A self-contained unit for air conditioning a knitting room was shown by Air-Perme-Ator Mfg. Co., Paterson, N. J. With the unit, the temperature and humidity of a knitting department are controlled the entire year. No central system is required. (A-117)

### Knitting-Machine Oil

A full-fashioned knitting-machine oil for 51-, 60-, 66-, and 75-gauge machines was shown by Shell Oil Co., New York, N. Y. The oil is for both single-filament and multifilament sized nylon yarn.

It contains a new rust inhibitor and a cleaning agent. The company states that size deposits will not accumulate on needles, sinkers, and dividers of machines where the oil is used. (A-118)

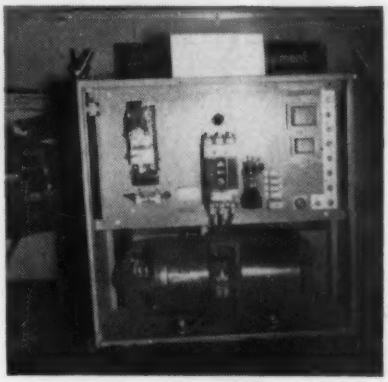
### Office Humidifier

Fresh dust-free air is assured all the time by a humidifier made by Air-Perme-Ator Mfg. Co., Paterson, N. J. The manufacturer says the unit filters and washes indoor air, adds the proper moisture, and recirculates the air.

The unit is plugged into a 110-v. socket and is ready to use. Water can be supplied manually or by direct water connection. (A-119)

### Hosiery-Machine Grease

A grease said to be effective for sinker pots on Komet hosiery machines was shown by H. C. Harding, Inc., Philadelphia, Pa. It is also a good lubricant for bearings, gears, and any metal-to-metal parts. It will not harden or cake in bearings or on surfaces. (A-120)

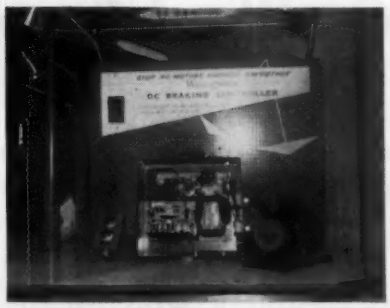


### Hosiery-Machine Drive

Quick and accurate speed changes for hosiery machines are provided in a new drive manufactured by Westinghouse Electric Corp., Pittsburgh, Pa.

There are eight different operating speeds, and each speed is adjusted independently. Armature voltage control assures a speed range of 10 to 1.

Only two electronic tubes are used in the drive; therefore, mill-maintenance electricians can service the controls without calling in outside electronic specialists. Dynamic braking gives quick and smooth stopping. (A-121)



### Braking Controller

A d.c. braking controller shown by Westinghouse Electric Corp., Pittsburg, Pa., is completely self-contained in an enclosure no larger than a combination line starter. After the first installation, no further adjustments are necessary.

This controller eliminates the common double-shaft motor, wear of parts, mechanical maintenance, and solenoid hum. The controller can be used on any standard motor, and a minimum of space is required. It is operated from a start-stop push-button station. The braking action takes place immediately after the stop button is depressed. (A-122)

CONTINUED ON PAGE 226



For more information, circle the A-number on Reader-Service post card.

**BREAKER CYLINDER** is started up after stripping for color (every three days). Two blow-outs in the past 2½ years left scars on the coarse clothing, but it is still running without processing trouble.

# COARSE CLOTHING Has Paid Off On Wool Carpet Stock at This Plant

**● The breaker cylinder is scarred from two blow-outs in two years, but it is still running with the same coarse kneeless clothing**

**By THOMAS B. WINSTON**

THREE BREAKER CYLINDERS at a Rhode Island carpet-yarn woolen mill are clothed with coarse kneeless clothing. The mill has five cards supplying five mules, and production is 55 lbs. of spun yarn per hour (equivalent to 65 to 70 lbs. per hr. of card production). Out of 18,000-lb. lots, 13,000 lbs. of yarn is produced on 1¼-run work.

The No. 1 breaker was equipped with Tufferbrute No. 1 in May, 1952, the No. 2 breaker with Strip-O-Matic in February, 1953, and the No. 3 breaker with Tufferbrute No. 1 in May, 1953. The No. 1 breaker has been through the roughest experience; since May, 1952, two blow-outs have happened.

In one case, a stripper belt broke and the stripper went into the cylinder. In the second case, a broken bracket kicked out the first worker, and the fancy went in. Although scars are visible from the blow-outs, the cylinder is running without processing troubles. Since the 1952 installation, two light grindings—8 to 10 hrs.—have been necessary in the approximately 10,000 hrs. of operation. The clothing was put on at 450 lbs. pressure.

The superintendent of yarn manufacturing says that with the present card clothing there is less droppings, and what does drop out is short-staple fiber, and that the cylinder doesn't load up or carry dirt.

Settings for the two cylinder sets of 60x60- and 60x48-in. cards are a 24 gauge on the breaker and 28 gauge on the finisher. A 1¼-in. straight fancy is run at 400 rpm. and set to about ⅛ in.

One card set is equipped with Peralta rolls; and after the Peraltas, strippings are cleaner and burrs don't stick in the cylinders. With or without Peralta rolls, the cards are set up the same.

# Tips on PACKAGE DYEING

**Dyeing yarn in packages or on beams has developed into a precision dyeing method capable of reproducible results. Improvements in machines and control methods have contributed to good work, but other points to watch include:**

- **Proper package density**
- **Choice of dyeing assistants**
- **Selection of dyes with similar exhaustion rates**

**By A. P. ROY,** Textile Consultant

PACKAGE DYEING is based on chemical and physical reactions that, being reversible, create a state of equilibrium. This state and the rate at which it is established are a function of the dyeing temperature.

Dyeing is considered to take place by the diffusion of the dye molecules along intermicellar spaces. When the fiber is placed in the dyebath, swelling creates areas through which dye can diffuse. The rate of diffusion is much greater at high temperatures than at low temperatures, and usually the advantages of such diffusion outweigh the disadvantages of a somewhat faster exhaust rate. At times, however, it is advantageous to start dyeing at a low temperature in order to obtain a slow rate of exhaust and to complete the dyeing process at a high temperature to obtain the leveling effects of a high rate of diffusion.

### Preparation Is Important

Proper preparation of yarns is essential for satisfactory results. There is evidence to indicate that dyehouses lose 50% or more of potential production as a result of faulty yarn preparation.

There are five points that have a decided bearing on good package dyeing:

1. Weight. The greater the weight, the greater the production.
2. Dimension of the package. The distance between the dye spindles will determine package diameter.
3. Yarn count. Harder yarns must be wound looser than soft yarns.
4. Angle of the wind to some extent controls the passage of the dye liquor through the yarn. It must be realized that the dye liquor should not go through holes in the package but through the yarn itself.
5. Density. The density should be as even as possible.

Any increase in yarn resistance retards the rate of flow; and naturally, the more flow of liquor through the package, the more even the dyeing. Package equipment must be equipped with sufficient pump and motor capacity so that 3½ to 5 gals. of dye liquor per minute will pass or filter through the package to give satisfactory results.

### Use the Proper Wind

Proper winding of the package is of primary importance because the best conditions and techniques in the dyeing itself will not compensate for a poorly wound package.

There are four popular types of yarn dye packages or yarn holders in use:

⅝-in. perforated paper tubes
1⅝-in. perforated metal tubes
1⅝-in. spiral springs
2⅛-in. Barber-Colman dye tubes

Sometimes a cotton sock is used on all these tubes, especially the spring with a 1⅝-in. hole. A rubber band placed on each end of the 1⅝-in. tube can be used instead of the usual knitted sock.

The yarn traverse on the tube is approximately 6 ins. and the over-all length of the tube approximately 6¾ ins., except Barber-Colman tubes, which are 3⅝ ins. in length.

There are certain precautions that must be taken before successful dyeing can be produced on any type of machine. Package dyeing employs a short liquor ratio anywhere from 8 to 1 to 12 to 1, making a very concentrated dyebath; so every effort must be made to prevent the color from going on too rapidly, or uneven dyeings will result. The proper selection of dyes plus compatible dyeing assistants is very essential.

Serious consideration should be given to the selection of the wetting agents. Some wetting agents and dispersing agents for certain dyes, especially vats, may tend to coagulate or enlarge the particle size and cause precipitation during the pigmentation. Uneven dyeing will result, especially if the dye is a fast-exhausting type. The exhaustion from a short liquor is greatly accentuated because a filtering action takes place as the dye liquor circulates through the package. Therefore, it is essential to select colors with the same rates of exhaustion plus favorable dyeing assistants compatible with the dyes being used. Care in selecting dyes and assistants is one of the most important factors in the success of package dyeing.

Dyes selected for pressure dyeing must be highly soluble to facilitate penetration. The use of good dispersing and wetting-out agents such as the sodium lauryl sulfates, sodium alkyl sulfonates, or amide condensates will increase solubility and create better distribution of the dyes through the package.

### Here's a Formula

The following formula has been used repeatedly in successful precision dyeing and is an example of the practicability of the method when suitable dyes and assistants are combined. The formula produces a Lucerne Blue on 500 lbs. of 40/2 C.P. yarn, dyed at a 12 to 1 ratio.

2½% Indanthrene Blue G.C.D. Index No. 1113
2½ lbs. dispersing agent in expansion tank
1 lb. dispersing agent in stock tank
2 lbs. wetting-out agent in stock tank
From outside-in run:
35 mins. pigment (dry) 155° F.
Add 40 lbs. caustic slowly( outside-in)
Run 15 mins.
Add 35 lbs. hydro
Run 1 hr.

CONTINUED ON PAGE 230

**FILAMENT-YARN FABRICS** can be woven on looms formerly used to weave spun yarns. Conventional take-up-roll covers and temple rolls must be replaced with composition or rubber materials.

# *Handling Methods for Weaving The Newer* AUTOMOBILE FABRICS

**Machines formerly used to process yarns and weave spun-fiber fabrics can be used to weave the new filament-yarn fabrics, but they may have to be modified. The necessary handling methods include—**

- **Teaching employees to treat yarns carefully**
- **Controlling warping and winding tension**
- **Sizing the warps right**
- **Altering loom attachments**

By **WILLIAM P. CRAWLEY,** Textile Research Dept., American Viscose Corp.

PROBABLY THE WIDEST VARIETY of fibers and yarns ever used for upholstery are now being featured in the new automobiles. All-filament yarns and combinations of spun and filament yarns are being used extensively for upholstery fabrics, convertible tops, and seat covers.

Filament yarns, especially nylon and rayon, give lively and colorful pattern effects, are pleasing to the touch, and are durable.

Weaving mills accustomed to running only spun yarns must learn several new handling techniques and mechanical details to convert their looms to filament-yarn fabrics. But the job is made easier because the automobile-fabric filament yarns usually range in size from 300 to 900 den. At least some modification of existing equipment is necessary in nearly every mill; and in some mills, new equipment is advisable.

Teaching new techniques to employees who formerly handled only spun yarns is important. Outside help from qualified people for this training is sometimes a good investment because it is a big step toward insuring good quality at the start and it eliminates the probability of a long period of wasteful production from inadequate know-how.

## Control Warping Tension

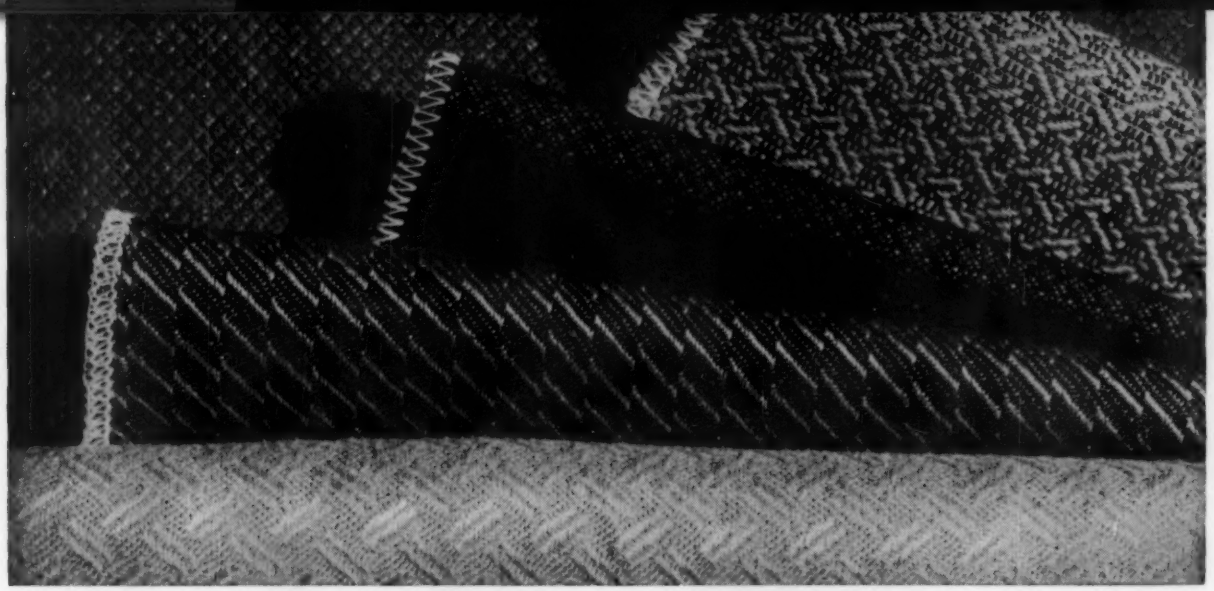
The existing warping equipment, including the creel and head, in a spun-fiber mill may not be satisfactory for filament yarns, especially the regular or low-twist yarns. Vertical or horizontal creel spindles may be used, depending upon the supply package and the particular yarn. Sectional warping can be used, but the cotton system is more economical where the yardages on single constructions are great and where warps are to be sized.

In warping, uniform yarn tension, smooth surfaces for yarn travel, reed or comb teeth evenly spaced, and true section beams are essential. Headaches can sometimes be avoided by buying yarn on the producer's section beams if it is available.

## Size Low-Twist Warps

Some of the more-popular fabrics are made with filament yarns of relatively low twist, say ½ to 3½ tpi. For high weaving efficiency, warps must be sized or twist must be added. Warp sizing is practiced where flatter and more-lustrous yarns are desired in the fabric.

For rayon, a sizing of either 2% gelatin plus a small amount of softener or a 1 to 1½% solution of polyvinyl



**PATTERN EFFECTS** can be obtained from either jacquard or head motions on the looms. For the more-complex constructions, multiple-shuttle looms must be available.

alcohol (such as Elvanol 51-05) is satisfactory for most weaves. Nylon can be sized with 3 to 4% Elvanol 51-05. These sizes are easily removed in scouring and will not interfere with dyeing and finishing. Correct handling methods at the slasher and putting the yarn on the loom beam smoothly and evenly are important phases of slashing.

### Wind Filling Tenderly

Winding filament filling yarn in spun-fiber mills gives trouble because the filament yarns must be handled delicately. Filling sloughing off the bobbins at the loom is nearly always a problem, and the precautions in this checklist should be followed:

1. Wind the filling bobbin with a long smooth taper. A No. 7 wind may be satisfactory, but a No. 5 wind is necessary with coarse yarns.
2. Control the yarn tension during winding by measuring the tension with a single-end tensiometer. The tension should be tight enough to give a firm bobbin but should not exceed 0.4 gram per denier for rayon or 0.3 gram per denier for nylon. If tensions are not reasonably uniform, a puckered effect may result in the fabric.
3. To reduce wildness, allow the wound bobbins to condition in the weaving area a minimum of 8 hrs., and preferably 24 hrs., before they're woven.
4. Relative humidity in the winding room should be 50 to 58%; in weaving, it should range from 60 to 65%.

### Use Good Bobbins

Filling bobbins should be perfectly smooth and straight. Nicks and scratches on the bobbins will snag the filling at the loom. Waste yarn left on the bobbins at the loom should be wound off and not cut off to avoid scratching the bobbins.

Winder guides, tensioning devices, traverse wheels, and all other surfaces that may abrade or snag the yarn should be kept smooth. Avoid snubbing the yarn between the tensioning device and the bobbin.

Wound filling bobbins should be placed on pinboards as they come from the winders. The pinboards prevent damage to the yarn in handling and keep the filling clean.

If filling yarn sloughs off at the loom as a result of loom vibration, mount a stand on the floor to hold the pinboards to correct the trouble.

### Modify Loom Attachments

Several types of looms are used to weave the various constructions of automobile fabrics. Pattern effect possibilities depend on whether head motions or jacquard motions are used. Both single and multiple shuttles are used to produce attractive fabrics.

Where a filament warp is run on looms formerly weaving spuns, it is necessary to provide:

1. Cleanliness.
2. Smooth surfaces and no sharp edges in contact with the yarn at any point.
3. Rubber- or composition-covered take-up rolls. Avoid perforated tin- or sand-covered rolls.
4. Rubber temple rolls. Conventional rolls with pins are not recommended, but they may be satisfactory where spun yarns for warp or filling are woven.
5. Clean and rust-free drop wires, heddles, and reeds.
6. Race plates covered with corduroy or similar velvet-type cloth.

### Avoid Filling Trouble

Filling trouble is more common than warp trouble because of the complexity of filling insertion. Fabric defects from mishandling filling are numerous; but many of them may be avoided by proper attention to shuttles, filling stop motions, thread cutters, and the filling supply. Correct practices are:

1. Line the shuttles with a good grade of opossum fur. Eliminate the bristles that may have been used with spun yarns.
2. Install adjustable-pad tension eyes for close control of filling tension.
3. Keep the shuttles smooth to prevent snagged filling and jerk-backs.
4. Maintain the grooves in the sides of shuttles to avoid pinched filling in the shuttle boxes.
5. Check the shuttle boxes for rough or sharp edges that may snag or cut the filling.
6. Provide smooth leather on the box fronts.
7. Keep the pickers free from rough edges, especially on the transfer end of the loom.
8. Keep the filling stop motion in good mechanical condition. Keep the fork clean and smooth.
9. Maintain the thread cutter properly.
10. Empty the bobbin cans before they become so full that the ejected bobbins will not drag the waste ends of filling out of the way of moving loom parts.
11. Clean the loose thread waste from the transfer motion and lay end at regular intervals.

# 12 FIBER PROPERTIES
## For Cotton-System Processing

**● Synthetic fibers must have certain minimum fiber properties to be processed commercially on the cotton system. The requirements listed here can be compared to TEXTILE WORLD'S Synthetic-Fiber Table.**

IF A FIBER does not meet the specifications given here, you could find a way to process it; but it is unlikely that the fiber would become a howling success on the cotton system.

In addition to traditional cotton-system equipment, the requirements refer to modifications that allow some of the synthetics to be handled. These modifications are primarily increases in the spacing between drafting rolls, but they also include fancy rolls on cards and circular balloon-control devices.

### 12 Fiber Requirements

**1. The fiber must be as clean as possible**

Contamination with grease and oil prevents the opening equipment from operating properly; and at times, contamination has been a problem with some of the synthetics, particularly garnetts and some of the imported rayons.

But problems of cleanliness are more frequent with natural fibers. Foreign material such as leaf, motes, and trash should be at a minimum. In recent years, with the increase in machine-picked cotton, foreign matter has become more instead of less of a problem.

Finally, it is necessary to completely eliminate such contamination as tar specks and honeydew.

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*Adapted from a paper presented by Neal Truslow, U. S. Rubber Co., at a symposium on Fundamental Fiber-Fabric Relationships at The Polytechnic Institute of Brooklyn.*

**2. The fiber must be easily opened**

Tangled fibers cannot be pulled apart by cotton-processing equipment without excessive fiber breakage and too many neps. Hard lumps of tangled fibers have been found in both natural and synthetic fibers and have led to serious mill problems in recent years. It is suspected that current ginning practices are the chief cause of tangled cottons. In the synthetics field, certain producers have frequently shipped bales that are matted and tangled together, which prevents good processing.

Since a card handles about 2.4-billion fibers per hour, many fiber properties become critical; most frequently, trouble shows up first in carding.

**3. The fiber must be of the correct length**

Fibers as short as ¼ in. and as long as 6 ins. are processed on cotton cards, but only when these extremes are present as a minor part of the total fibers. In actual practice, the extremes of average fiber length are 0.5 to 3 ins. These extremes can be handled satisfactorily on cotton equipment, provided the machinery is adjusted properly for it.

At the present time, most of the fiber handled on the cotton system has an average length of 1 to 1½ ins. The shortest fibers are unsatisfactory because they do not cling to each other enough to be handled properly. The longest fibers are unsatisfactory because they cannot be untangled or straightened and because they tend to wrap around the processing rolls and get embedded in the wire.

**4. The fiber must be the correct diameter**

Fibers as fine as 0.75 den. and as coarse as 50 den. are regularly processed on cotton equipment. However, as in the case of the fiber length, these outside limits are greater than the range of the average deniers being processed. The average denier varies from 1.0 to 16. These extremes can be processed satisfactorily, but the major poundage varies from 1.2 to 3.0 den.

**5. The ratio of length to diameter must be correct**

If the fiber is too long for its diameter, it is easily tangled, neps are formed, and the spaces between wires in the card become loaded. A rule of thumb is that the staple length must not exceed the denier. This rule also applies fairly well to blends. A 50-50 blend of 1.5-den. viscose and 3.0-den. Orlon can be processed satisfactorily with a staple length of 2 ins. but not with a staple length of 3 ins.

Conversely, if the fiber is too short for its diameter, the low frictional contact between fibers will not hold the card web together and the fibers will not be uniformly drafted in subsequent operations. Experience indicates that the minimum value for this ratio is 0.15.

The working limits to the length-diameter ratio—fiber length in inches divided by the fiber diameter expressed

**Fiber Properties Required for Cotton-System Processing**

| Property | Maximum | Minimum |
|---|---|---|
| Contamination | Must be clean | |
| Tangled fibers | Must be easily opened | |
| Length | 3.0 ins. | 9.7 ins. |
| Diameter | 15 den. | 1.0 den. |
| Length-denier ratio | 1.5 | 0.15 |
| Elongation | 40% | 5% |
| Static | High conductance, low charge | |
| Relative humidity | 70% | 45% |
| Coefficient of friction | 0.3 | 0.6 |
| | (Dynamic) | (Static) |
| Dry tenacity | — | 1.0 gram per den. |
| Wet tenacity | — | 0.5 gram per den. |
| Melting point | — | 300° F. |

as denier—is from 1.5 to 0.15.

**6. The elongation must be correct**

As the card operates, it carries the fibers at 15 mph. past hooked wire that is essentially stationary. To withstand such punishment, the fibers must have a certain amount of give or stretch. Certain fibers such as glass, which has a low elongation, are badly broken in carding. At the same time, if the fibers have too much stretch, they tend to embed in the wires and load the card.

Also, in subsequent drawing operations, it is difficult to set the drafting rolls to adequately control the movement of the fibers because the effective length varies so much. Experience indicates that the limit for elongation at break is from 5 to 40%.

**7. The fiber must have satisfactory electrical properties**

As fibers leave the drawing rolls, they are traveling at a high speed in a light web. And if the fibers hold a high static charge, their even movement is hindered.

To be satisfactory, the fiber (or the finish used on the fiber) must allow built-up charges to drain off rapidly; also, it is desirable to select finishes that will not build up a large initial charge.

The electrical properties of the fiber (and the finish used on the fiber), as well as other characteristics, can be affected by humidity. Today, practically every mill makes some attempt to control static; but the variations in humidity are considerable.

**8. The fiber should not be adversely affected by humidity changes**

Considering the large number of operations and since some fluctuations occur in all controlled-humidity systems, a satisfactory fiber must be able to perform over a range of humidities. It would be desirable for the fibers to be relatively insensitive to changes between 45 and 70% r.h. Few of the new hydrophobic fibers can meet this condition. However, they all meet the minimum requirement of performing satisfactorily at 50 to 65% r.h.

**9. The fiber must have a high coefficient of static friction and a low coefficient of dynamic friction**

On the roving frame, fibers must not slip past each other as they are fed into and removed from the drafting zone. Forces that tend to cause slippage are fairly large because the strand must support itself while it is lifted to the top of the roving frame; and on leaving the front rolls, it is subjected to centrifugal forces and dragged until it is wound on the bobbin. To withstand these forces, the fibers must have a high coefficient of static friction. The limiting values have not been established, but it appears that the static friction should have a coefficient of about 0.6.

In contrast to this requirement, the fibers must slip past each other easily during drafting. So the coefficient of dynamic friction should be low. Tests indicate that the coefficient should be approximately half as much as the static-friction coefficient.

**10. The fiber must have a moderately high tenacity**

As roving is converted into yarn on the spinning frame, the yarn is subjected to high centrifugal forces. At times, these forces must be sustained by the relatively few fibers that are twisted at the nip of the front rolls. These forces can break weak fibers and cause the end to come down.

Fiber with a tenacity less than 1.0 gram per denier is so weak that it cannot be handled satisfactorily in spinning or in other cotton-mill operations.

**11. The fiber must not be greatly deteriorated by short exposure to moderately high temperatures**

During spinning, the tip of the traveler can actually become red hot. In other operations, such as quilling, the parts over which the yarn is running can become very hot. Also during drying and resin-curing operations, fairly high temperatures are frequently encountered.

To be satisfactorily processed on the cotton system, a fiber must have a melting point high enough to not become sticky at 300° F.

One other requirement must be added for the finishing plant:

**12. The fiber must have satisfactory resistance to wet processing**

For desizing, scouring, and dyeing operations, the fiber must be able to stand up under wet handling. A wet tenacity of at least 0.5 gram per denier should be sufficient.

# *Useful Ideas for* TEXTILE PACKAGING

**Developments and ideas from the National Packaging Exposition that can be used by mills to cut packaging costs and stimulate textile sales include—**

- **Machinery for wrapping and labeling**
- **Packaging materials better suited to textiles**
- **Designs and decoration to help impulse sales**

Interest in textile packaging was one of the notable features of the 24th National Packaging Exposition in Chicago in April. Yarn, gray-goods burlapping, finished cloth, garments, women's hosiery, anklets, and men's half-hose in a wide range of packages and packaging materials were on display.

As shown by the exhibits, trends in textile packaging are toward—

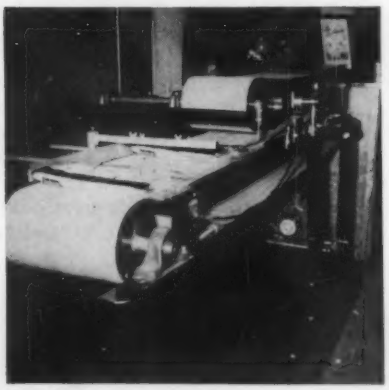
1. Mass-sales units to make textile products as readily available as other stock items in supermarkets, drug stores, novelty stores, etc.
2. Appealing decorative packaging to stimulate impulse sales
3. Durable packaging to guard against loss of sales by torn or dirty packages
4. Use of secondary brand names by mills that have established brand names in order to place their products in mass outlets without penalizing their established brands

Among the technical packaging developments to aid in one or more of these objectives are: wrapping films of clearer transparency, films of greater strength and longer life, decorative ribbons and bows that can be stuck on a package with a self-contained adhesive, and machines to speed and cut costs of packaging and labeling.

On these pages, TEXTILE WORLD presents some of the packaging ideas and developments seen at the show that are now being used or could be used by mills.

**TO REQUEST FURTHER INFORMATION on any item described in this review, please use the Reader-Service card on p. 183. Refer to the number following each description.**

## Packaging and Sealing Equipment



### To Press and Seal

Machines for pressing textile items and sealing them in a package were shown by Doughboy Industries, Inc., New Richmond, Wis. The machine will handle any type of wrapping material or envelopes that can be sealed by heat. **(B-1)**

►A bundle tyer for bolts of bulky crinkled cloth has been designed by National Bundle Tyer Co., Blissfield, Mich. The tyer is similar to the Saxmayer tyer but designed to handle larger, bulkier goods. **(B-2)**

►A sealer for thermoplastic films was shown by Packaging Industries, Montclair, N. J. Continuous metal bands do the sealing. The bands, driven between three sets of metal rollers, are offset just enough to provide the necessary pressure to seal over wrinkles. The bands are first heated to do the sealing and then water-cooled to cool off the film. **(B-3)**

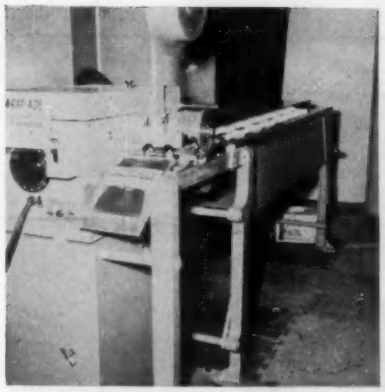
### Roll-On Sealer

A portable applicator for sealing cartons with kraft-paper tape was demonstrated by Roll-On-Sealer Co., Antioch, Ill. The sealer weighs 2½ lbs. and sells for $39.95 f.o.b. **(B-4)**

### Case Sealer

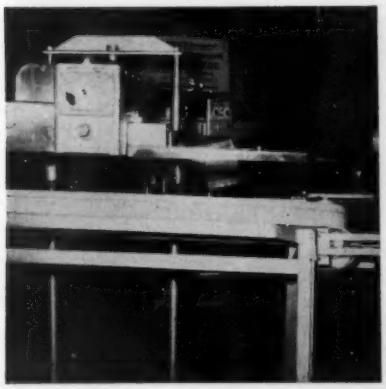
A sealer for the top and bottom flaps of cases was shown by A-B-C Packing Machine Corp., Quincy, Ill. The sealer is equipped with beaters to dry the adhesive quickly. The operator packs the case on a packing table in front of the sealer and then pushes the case into the sealer. **(B-5)**

►The Flexi-feed, a device designed to convert hand feeding to semiautomatic feeding on wrapping machines, was shown by New Jersey Machine Corp., Hoboken, N. J. With the unit, the operator can concentrate on spotting. Change-over time is 10 mins. **(B-6)**



## Packager

A unit packager with a conveyor feed was shown by Wrap-Ade Machine Co., Inc., Belleville, N. J. For the soft-goods packager, the machine comes equipped with a series of pusher bars to allow a diversified group of items to be fed without any change in the feeding system. The machine completely seals the contents in a plastic casing. **(B-7)**



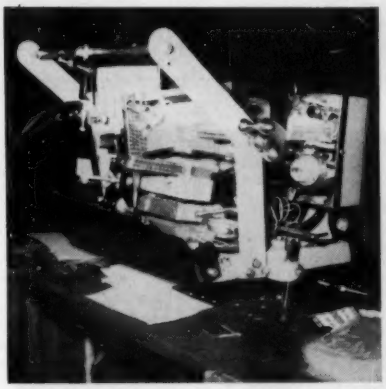
## Sealing Machine

The Plasti-Sealer, a machine for heat-sealing plastic bag materials, was shown by Pack-Rite Machines, Milwaukee, Wis. The filled bags are folded closed by an operator who places them on a conveyor that carries them through the heated sealing unit. The unit seals up to 6 ins. per min. of 1½-mil-thick polyethylene. **(B-8)**

▶A machine that wraps single or multiple units was shown by Hudson-Sharp Machine Co., Green Bay, Wis. The wrapper also applies printed or attached labels. It provides complete hermetical sealing and permits size change-over with little downtime. Code daters, label imprinters, and automatic hoppers, feeders, and delivery systems can be attached. **(B-9)**

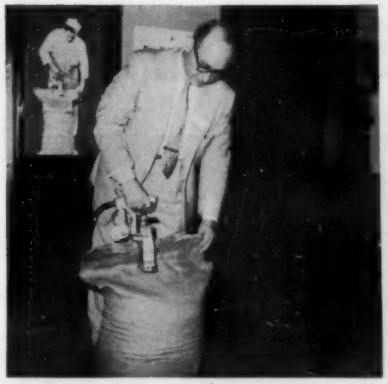
## For Packaging Gloves, Socks

A machine for making, filling, and sealing a flexible package for such textile items as underwear, socks, stockings, gloves, etc. was demonstrated by Roto-Wrap Div., Conapac Machine Co., New York, N. Y. It will handle packages from ¾ x 1½ ins. to 6-in. width x any length. **(B-10)**



## To Seal Envelope Packages

A heat-seal machine for sealing and labeling a plastic-film envelope package such as those used by mills for women's hosiery, half-hose, gloves, shorts, undershirts, ribbons, etc. was shown by Globe Heat-Seal, Inc., Los Angeles, Calif. Envelope width can vary from 2 to 8 ins. **(B-11)**



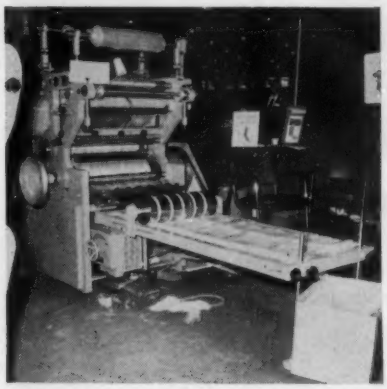
## To Sew Burlap Covers

A portable electric seaming machine that might be used by mills for sewing burlap or heavy-duck wrappers around cloth for shipping was demonstrated by Dave Fischbein Co., Minneapolis, Minn. Designed for closing feed bags, as shown here, it weighs 10½ lbs. and closes a bag in 6 secs. One drawback for cloth packages is the fact that the seamer construction will not permit the cover to fit tightly. **(B-12)**

## Bagging Machine

A machine that uses air to blow plastic bags open for filling with textile items was shown by Tele-Sonic Packing Corp., New York, N. Y. The unit eliminates the bottleneck of bag opening and filling. The operator slips a pile of bags into the bag holder; and while air pressure opens the top bag of the pile, the operator slips in the product. **(B-13)**

▶A box machine that forms turned-over end boxes from blanks was shown by U. S. Automatic Box Machinery Co., Inc., Boston, Mass. The blanks have double-side or single walls, either creased or scored. The machine produces 20 to 60 boxes per minute. This machine can be applied to hosiery packaging. **(B-14)**



## Bag Machine

The Renka bag machine, which produces a plastic bag with a string around the top edge to resist tearing, was shown by Geveke & Co., Inc., New York, N. Y. The machine can handle a variety of films; and the bags produced can be used for packaging sweaters, sheets, and blankets. **(B-15)**

CONTINUED ON PAGE 192

## Labeler

A machine that applies labels to round containers was shown by The Atlantic Supply Co., Baltimore, Md. The labeler is well suited to the manufacturer who desires semiautomatic labeling but who does not require expensive automatic equipment. A possible use to the hosiery manufacturer is in labeling cylindrical plastic hosiery containers. **(B-16)**

## Inspector's Stool

An adjustable stool for packaging operators, inspectors, and others whose jobs require them intermittently to stand, lean, and sit was shown by Adjusto Equipment Co., Toledo, Ohio. The seat can be raised, lowered, and tilted. **(B-17)**

▶A device for marking materials with one motion was shown by Algene Marking Equipment Co., Garfield, N. J. The device replaces stenciling, labeling, and stamp pads. It is held in the hand and run across the surface where the marking is required. It can produce up to 160 impressions per minute per man. **(B-18)**

▶The Twin-Taper and Dial-Taper, gummed-tape dispensers, were shown by Marsh Stencil Machine Co., Belleville, Ill. Two different tape lengths can be selected on the Twin-Taper, and either length is dispensed by pushing one of the two operating buttons. The Dial-Taper operates with a telephone-type dial. The operator dials the required length; and the machine dispenses the cut, moistened tape. **(B-19)**

## Carton Former

A carton former that forms and glues hosiery boxes was shown by Meyer-Clement, Inc., River Grove, Ill. The boxes can be made straight or tapered. A plunger is the only part that requires changing when one box size is changed to another. Up to 60 boxes per minute can be formed on the machine. **(B-20)**

## Tying Machine

An automatic tying machine that ties a wrap of twine around a bundle of materials was shown by Felins Tying Machine Co., Milwaukee, Wis. The machine produces 45 to 50 single-tied or 25 to 30 cross-tied packages per minute. **(B-21)**

## To Cut Labels

A die-cutting machine for cutting labels from sheets of printed labels was shown by The Printing Machinery Co., Chicago, Ill. Used primarily by label-printing companies, its capacity may be too great for all except large mills that require a great number of labels. **(B-22)**

## For Inspecting Cloth

An inspecting machine for continuously scanning a running length of material by stroboscopic light was demonstrated by National Laboratories, Ridgewood, N. J. Called the Scan-A-Web, the machine has been tried on cloth; however, there is a problem in some installations of physical room to tie it in with production machines. **(B-23)**

▶A machine for producing labels for the manufacturer who requires quantities of labels containing the same information was shown by Weber Label & Marking Systems, Mount Prospect, Ill. The machine operates from a stencil and can produce up to 100 labels per minute. **(B-24)**

CONTINUED ON PAGE 198

## Sales-Appeal Packages

Textile products packaged in durable decorated polyethylene packages for mass-market appeal were shown by Nashua Corp., Nashua, N. H. As shown here, packages included bolts of cloth, sheets, diapers, and pillowcases. (B-25)

## Cylindrical Plastic Containers

Samples of wool top and hosiery were shown packaged in cylindrical plastic containers by Celluplastic Corp., Newark, N. Y. The containers are made of polyethylene, polystyrene, or acetate. Labels can be put in the container or fixed on the outside. (B-26)

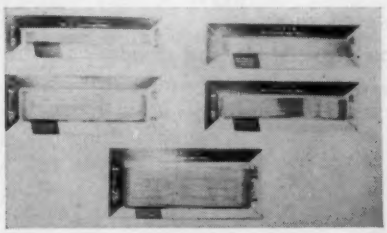
► Labels in any shape, size, or color, either plain, printed, or embossed, are available from Avery Adhesive Label Corp., Monrovia, Calif. (B-27)

► Plain and printed cellophane sheets for packaging textiles for sales appeal, customer self-selection, and package durability were shown by Chester Packaging Products Corp., Yonkers, N. Y. Sheets of any size, shape, and printed design are available. (B-28)

► Mylar, a new packaging material made from polyester film, was shown by E. I. du Pont de Nemours & Co., Inc., Wilmington, Del. The material is clear and is the strongest of all plastic films. It contains no plasticizer and will not crack or brittle with age. Properties remain constant from 80 to 300° F. Mylar is insensitive to moisture, oils, and greases. It resists solvent and chemical attack. Shown packaged in Mylar were blankets, sheets, sweaters, and fabrics. (B-29)

## Bows and Ribbons

Decorative bows and ribbons for use on packages of textile items such as towel sets and sets of sheets and pillowcases were shown by Delaware Ribbon Mfrs., Inc., Philadelphia, Pa. (B-30)



## Rigid Plastic Packages

Packaging boxes of rigid transparent plastic in a variety of sizes and shapes were shown by Western Printing Co., New York, N. Y. Textile products packaged in the boxes included ribbons. (B-31)

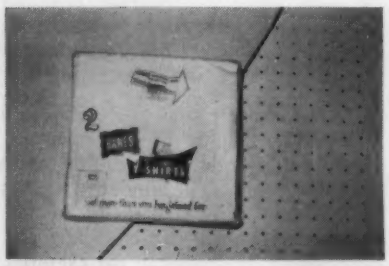
► Bags with a flip-close feature that allows the customer to inspect the contents without opening the bag completely were shown by Bemis Bro. Bag Co., St. Louis, Mo. The bag has many uses after the contents have been removed. (B-32)

## Visking Packages

A variety of textile items packaged with polyethylene film was shown by The Visking Corp., Terre Haute, Ind. Packages include chamois cloth, socks, robes, anklets, and baby-wear items. (B-33)

## Decorative Textile Packages

Textile packages designed to order were shown by Crystal Tube Corp., Chicago, Ill. Printed designs on polyethylene bags that can be easily packed with individual textile items and quickly heat-sealed were featured. (B-34)



## Cellophane for Packaging

Textile products packaged with cellophane were on display by Olin Film Div., New York, N. Y. Undershirts were among the packaged textiles shown. (B-35)

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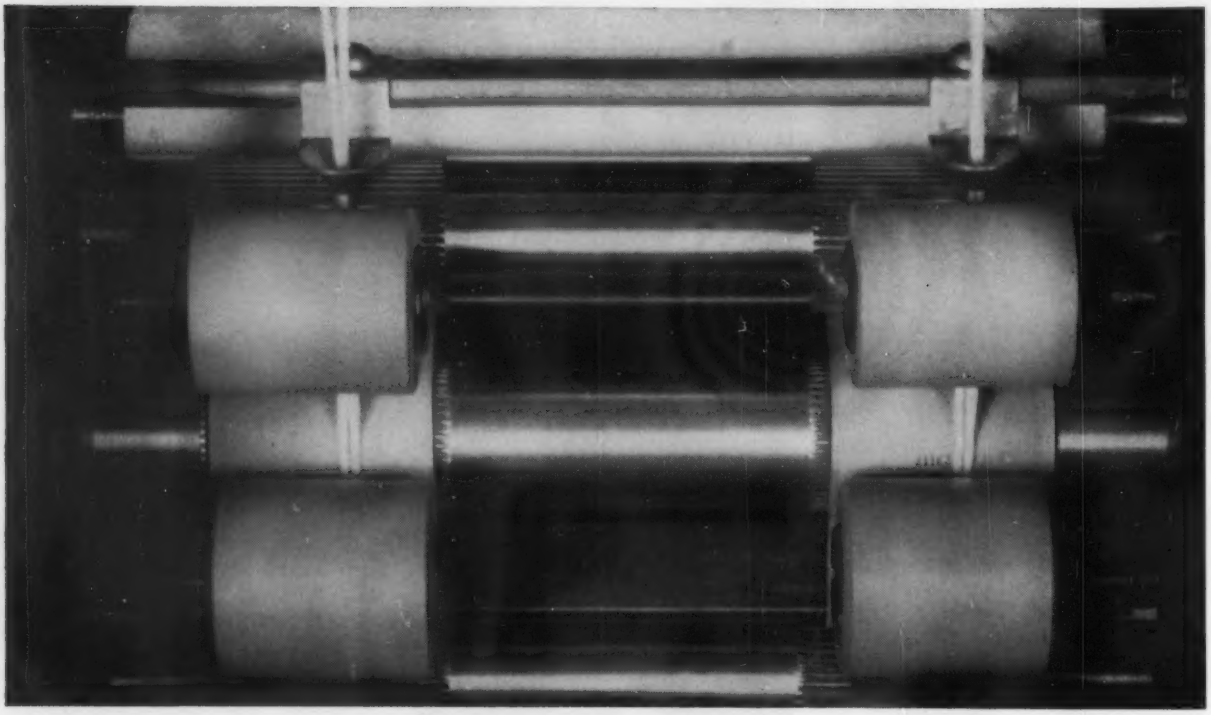
For more information, circle the B-number on Reader-Service post card.



**STEEL ROLLS, to be in perfect condition, should have sharp flutes clear of fiber, sticky gum, and motes and should be perfectly straight and highly polished.**

# Do Your STEEL ROLLS Get Proper Attention?

**Although steel rolls are half the drafting rolls of a frame, they often get nothing like the attention given top rolls. Good maintenance of steel rolls can more than pay for itself in—**

- **Stronger, more-even yarn**
- **Reduced wear on gears, studs, and stands**
- **Less spinning-end breakage**

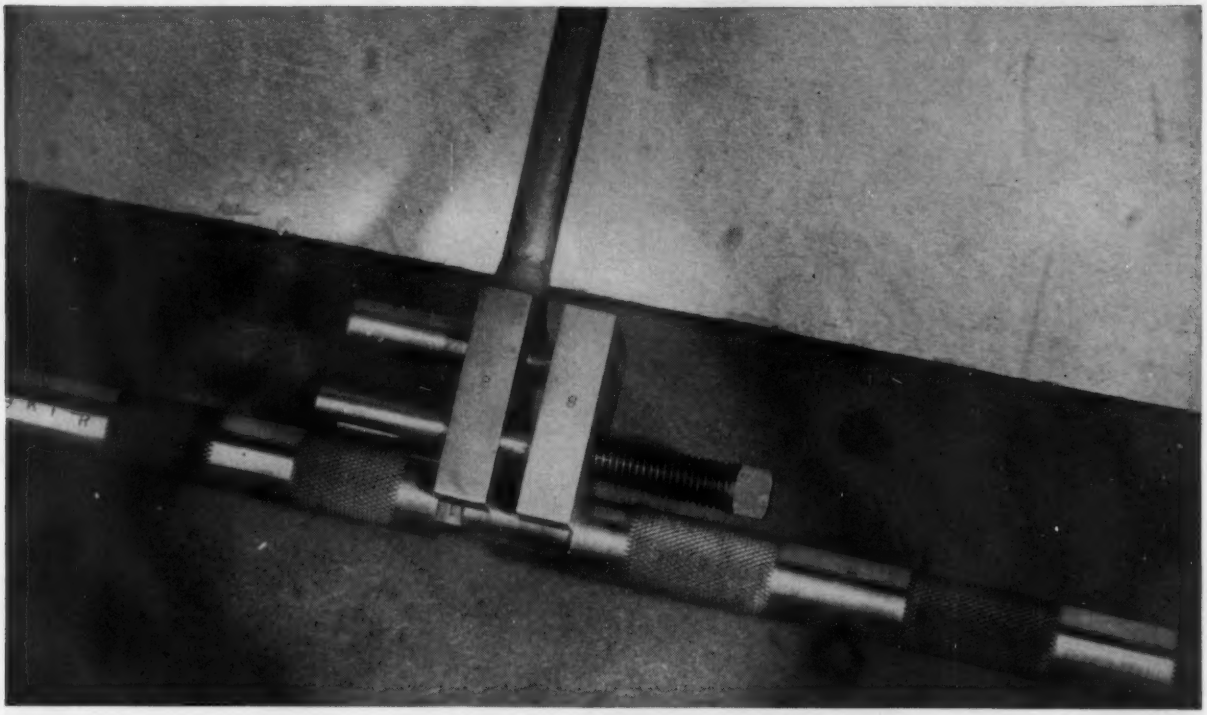
**By A. L. LANDAU**

STEEL ROLLS may be termed a hidden factor in the operating costs and productive results of a spinning room. The modern trend is to evaluate minutely many of the factors that affect the efficiency and profitability of spinning; for example, workloads, spindle speeds, drafts, etc. Maintenance programs are supposedly carefully designed to keep frames operating at top production; yet surprisingly enough, even with maintenance programs and careful inspection of each frame, the same old steel rolls are retained.

There are a number of reasons for this practice. The first is the fact that the critical effect of the steel bottom drafting rolls on the quality of yarn is not fully appreciated by all concerned in the mill. The second is the fact that the rolls are not generally considered an expendable item of repair. A third is the possibility that it is difficult to evaluate the savings to be gained or the losses to be prevented by new steel rolls.

A great deal of thought is given to top rolls because of the ease of discovering the faults and noting the condition of the roll and its covering. Lap-ups are quickly traced to a defect in the cot, or different coverings are tried until the trouble is overcome. Wear is readily apparent to the eye or by placing a straightedge across the roll to judge if concave wear has occurred in the middle of the roll. Finally, top-roll replacement is considered a normal cost of maintenance and is not questioned.

The condition of the steel roll is almost, but not quite, as important as the condition of the top roll. Depreciation of the steel roll is not as rapid



**TO SEPARATE NECK-AND-SQUARE JOINTS, use a screw spreader such as shown here. As the screw is tightened to force the spreaders open, the spreaders will separate the joint without damaging the roll. For a screw joint, use brass-jaw wrenches.**

or as apparent as depreciation of the top roll, and this fact probably accounts for a large portion of the neglect of this frame part. Also, the higher price of steel rolls accounts for the reluctance of many mills to replace them until the last minute.

It is a mistake to use steel rolls that have become worn or abused past effective use. This statement is an easy one to make; the question is to establish methods for checking the rolls and developing measures of preventive maintenance to prolong the life of the roll. Maintenance, or the repair of steel rolls, should never be extended past the economical life of the roll. There is a point at which the roll has outlived its useful life and becomes more expensive to repair and use than to scrap and replace.

### Rolls Must Be Straight

The critical parts of the steel roll are the joints, necks or bearings, flutes of the roll bosses, and studs and gears driving the roll. However, the most important checkpoint of a steel bottom drafting roll is the eccentricity or straightness of the roll.

Two distinct types of joints are now used on steel rolls. The older type of joint is the neck-and-square joint consisting of a square male on one section being driven into a female broached square of the next section. The more-modern construction is the screw-type joint with the male threaded into the female of the next section. Most new frames are made with screw joints, but it is possible to obtain necks and squares if a mill wishes to replace rolls with similar constructions or to replace only a few sections of a single roll. The screw-type joint is preferrable from a maintenance point of view, both because of the longer life and the ease of repair.

### Torsion Causes Wear

A steel roll is under great torsional strain as it is turned by the gear at one end. Each time the roll is stopped and started again, this torsional strain is transmitted from one roll section to the next and is concentrated at the joints.

Over the years, this stress on the joints starts wear between the male and female sections. In a screw-joint roll, the screw neck is tapered slightly and the direction of the thread is opposite the direction of rotation of the roll; therefore, as the roll runs, it is continually tightened up on the thread so that any wear that occurs is automatically taken up and a tight fit is retained.

Such is not the case with a neck-and-square roll joint. Wear causes looseness between the joints. Once looseness appears, the wear is accelerated because of the greater movement occurring every time the frame is started and stopped. There is no automatic take-up as with screw joints.

Repairing necks and squares is a difficult job that must be done by an expert. The male square is peened so as to force metal onto the low sides and is then filed until the joint is centered with the axis of the roll. This repair may sound simple, but experience is needed to be able to judge just how much peening and filing on which surface of the square will move the roll back into concentricity with the adjacent sections.

### Rolls Must Run True

Concentricity is of the utmost importance with any drafting roll, but it becomes increasingly more vital in progressing from the back to the front of the drafting system. The front bottom steel drafting roll must be maintained with close tolerances of run-out if maximum-quality yarn is to be obtained.

Most manufacturers specify a maximum manufacturing run-out for all rolls, including the front line. Back lines are not so critical because they move at slower speeds and because they are not so instrumental in the final drafting. The run-out is measured with a dial indicator at every boss along the length of each section and along the length of the entire line of rolls.

Tests on the effect of eccentricity

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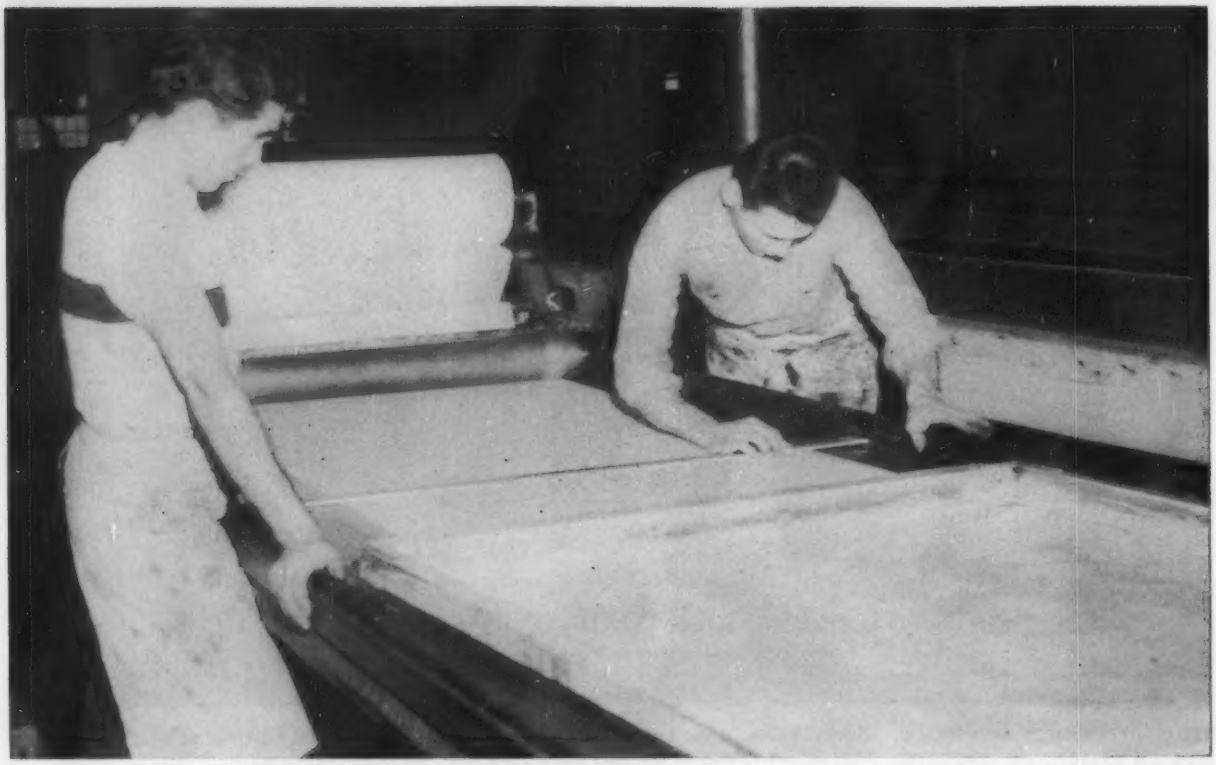


LAYING OUT a new cut of cloth to be printed requires careful measuring to be sure the cloth is centered with respect to the design on the screen.

# How Ahern SCREEN-PRINTS Decorator Fabrics

**● Ahern Textile Print, Inc., Norwich, Conn., specializes in documentary and other high-style prints on upholstery and drapery fabrics. The company controls the entire process from making the screens to final finishing. Cottons predominate; but synthetics, wool, and blends are a substantial part of the volume.**

By **ROBERT W. PINAULT,** Assistant Editor, TEXTILE WORLD

SCREEN-PRINTING at Ahern starts with the manufacture and maintenance of the screens. Designs received from the customers are generally used as received. The negatives—one for each color—are prepared by blacking out one color on a frosted acetate sheet that has been placed over the sketch or design. The negative is then placed on the glass top of a box containing fluorescent lights, and the Dacron fabric screen is placed over the negative so that the pattern is positioned very exactly.

The screen fabric has been previously prepared by coating with a plastic containing a sensitizer. Light from the box is directed up through the negative and screen; and after a 5-min. exposure, a chemical reaction is completed that insolubilizes the sensitized plastic. Careful washing with water removes the plastic that was protected from the light by the painted-out portions of the negative. These

open areas are then ready to permit passage of color through the screen. The washed screens are dried for several hours before they can be used in printing.

Occasionally, a screen is torn while in service and has to be repaired. In some cases, adhesive tape can be used to cement the edges of the tear; but if the pattern is involved, a section is removed and replaced by a piece of special screen cloth. The area is resensitized, exposed, and washed; and the screen can then be put back in service.

### Cottons Predominate

The great bulk of fabrics printed at Ahern are made of cotton; but rayon, Orlon, Dacron, wool, and blends of wool and cotton are handled. Some fabrics are delivered prepared for printing, but most of the cottons are prepared at the plant.

Cottons are desized through a 2% Diastafor solution and let lie on the roll for 2 to 3 hrs.; then they are washed out through an open soaper and can-dried.

The goods are saturated with a peroxide solution containing caustic soda buffered with sodium silicate. They remain in roll form for 24 hrs. and are then thoroughly scoured out by a pass through a hot solution of a detergent containing cresylic acid, soaped, rinsed, and neutralized in an open-width washer in range with drying cans. After the goods are dried, they are framed to the proper width for printing.

### Plant Is Versatile

Ahern has 40 60-yd. printing tables, 17 of 54-in. width, and 23 of 36-in. width. The tables are equipped either for pinning on fabric or have wax surfaces to which the fabric adheres while being printed.

To give drapery and upholstery fabrics colors that give maximum lightfastness, Ahern uses vats, pigments, indigosals, chrome colors, and directs. Desired effects are achieved by using the most suitable dye for the color needed. Combinations of 10 to 12 colors are not uncommon.

When vat colors are used, only the pigment and gums are included in the print paste.

After the color has set, the goods are padded through a caustic and hydro solution and passed immediately into the flash ager. In 30 to 40 secs., the vat dyes are reduced and actually dye the fabric. The cloth passes then into the open soaper, where the dye is reoxidized, surpluses soaped off, and the final washing completed.

Pigment colors that have resin binders are cured to develop the necessary fastness on a Sill Industries infrared unit, mounted on a specially designed winder. Any heat up to 800° F. may be maintained by setting the automatic controls for the temperature wanted. Cloth speed is maintained automatically by an electric-eye device that activates a variable-speed drive.

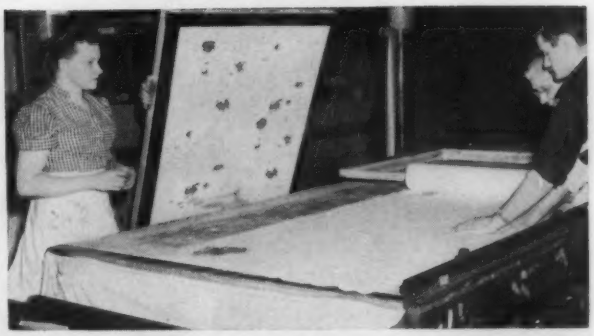
### Color-Shop Costs Reduced

Screen printing is a relatively slow process, but Ahern found that it was necessary to get better integration of print-room demands with color-shop procedure.

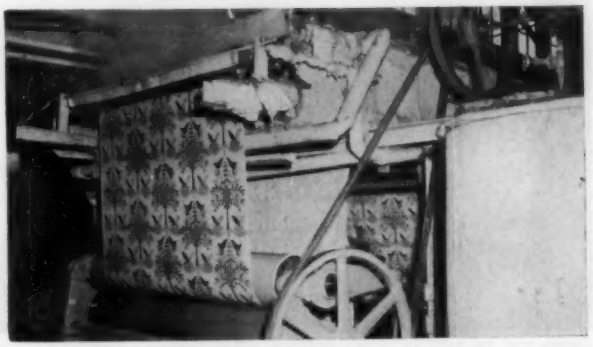
Previously, the dyes and chemicals in the color shop had been placed in a haphazard fashion; a lot of walking back and forth was necessary to make up the colors for a given shade, and confusion and lost time were the results of this lack of order.

Now, vat dyes and their necessary assistants are localized in one area, and other types of dyes are grouped in a similar way. Formulas are now made up faster and with less error.

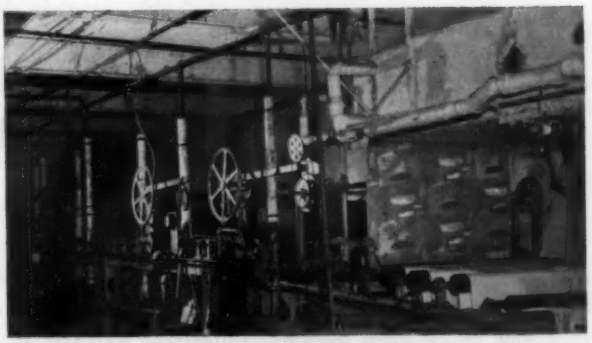
Weighing, mixing, and straining areas were laid out so that dye pastes could be made up quickly and easily. Coordination with print-room demands is much simpler under the new setup.



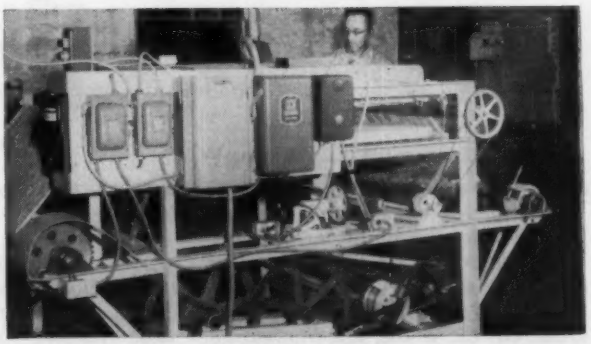
**PIGMENT PRINTS** cannot be done on wax-surfaced tables because the solvents in the color affect the wax. Here, a new lay is being carefully pinned to a back gray in preparation for pigment printing.



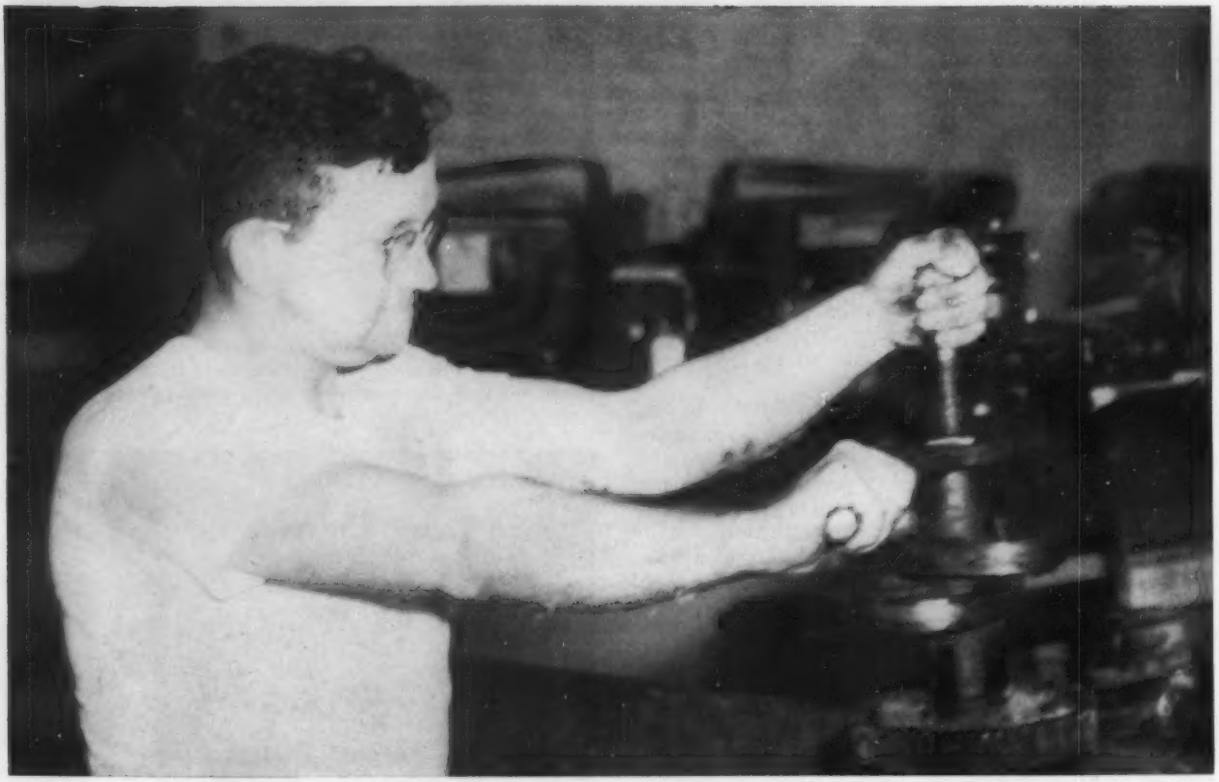
**FLASH AGEING** in the steam chamber reduces the vat colors that have been printed on in pigment form. Reducing chemicals are applied in the pad.



**OXIDATION, SOAPING,** and final washing follow flash ageing as a continuous process in this unit.



**UNIFORM CURING** of pigment prints is attained in this machine that has automatic control of the infrared heating units and constant-speed drive.



FAULTY HARNESS CAMS make uneven cloth in regular or irregular patterns. Repairs must follow.

# How To Find the Trouble To Clear Up UNEVEN CLOTH

**● The trouble with eliminating uneven cloth is that it's so difficult to find the cause. But only two basic things can make uneven cloth—bad yarn and faulty loom motions. Determine which is to blame, and you're all set to lick the problem.**

By **WILMER C. WESTBROOK,** Consulting Editor, TEXTILE WORLD

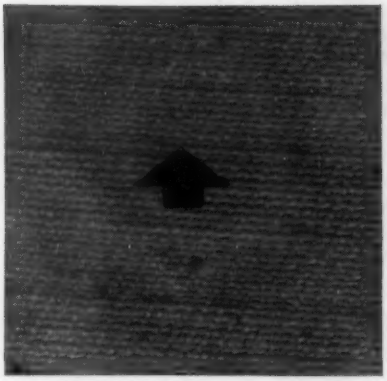
ALTHOUGH MODERN TEXTILE MACHINES are efficient and are capable of doing precision work, finished cotton fabrics are far from uniform. When viewed under a microscope or even a strong magnifying glass, the fibers, yarn, and fabric are very uneven. On the whole, this unevenness does not detract from the looks or serviceability of the fabric. In fact, great pains are taken to introduce eccentric variations in some types of cloth, notably dress goods and drapery materials.

However, some types of unevenness are detrimental and are classed as fabric defects. Some of these defects detract from the cloth appearance, some interfere with the finishing processes, and others reduce the breaking strength and wearability of the fabric.

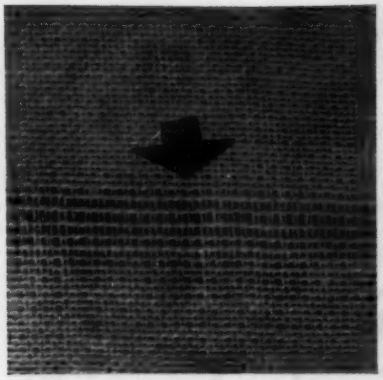
There are many causes of uneven cloth. Several causes are easily detected and corrected, but others do not show up plainly on the loom. Consequently, tracing their origin is often difficult.

## Check for Uneven Yarn

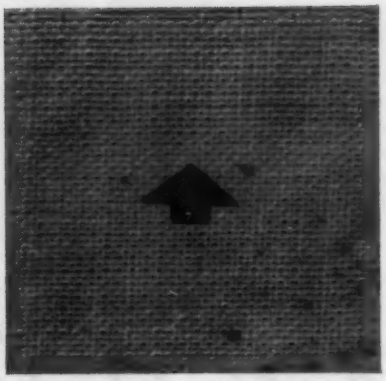
Some unevenness of cloth is caused by yarn that is not uniform. Variations in the size of warp yarn will show



FILLING DOUBLINGS pack up in the cloth because the ends are twice their normal size. This defect is only a few inches wide.



THIN PLACE of this type is a weave-room defect. A faulty loom motion or careless weaver is the cause.



WAVY CLOTH appears here in a regular pattern. A defective loom gear is apparently causing the waviness.

in the cloth as heavy or light streaks that may continue for a few inches or for several hundred yards. Uneven filling yarn will usually fall in definite patterns in the cloth and will give it a mottled appearance.

If the variation in the yarn is bad enough to affect the cloth adversely, the cause should be located and remedied. The yarn variation may be in the sliver or roving or may be made at the spinning frame. A warped, worn, or sticking roll will cause alternate light and heavy places in the yarn.

Some unevenness is caused by a variation in the size pickup at the slasher. Although most cloth is desized, a heavy concentration of size can affect weaving; and when the size is removed, open places are left in the fabric.

### Analyze Thick Places

Thick places in cloth, fillingwise, are caused several ways. A broken end in spinning may become entwined with an adjacent end. The two ends are then spun together to form a doubling. Doublings made thick places in the cloth, which may vary from a fraction of an inch to several inches in width.

When a loom is restarted after a stop, a weaver sometimes holds the foot let-back pedal down and a thick place is made in the cloth. When a loom is restarted after a pick-out, a weaver often releases too much cloth and a thick place is formed.

If the let-back mechanism is not set correctly for the fabric being woven, a thick place may result each time the filling fork stops the loom. When cloth is woven without midget feelers, this let-back stops the take-up motion and reverses the take-up roll each time the filling is transferred; and thick places result at every filling transfer if the mechanism is not set correctly.

If one of the forks on a single- or double-fork filling motion is not functioning correctly, it may operate the let-back and cause thick places.

A worn yarn-beam bearing or a worm or broken tooth in the yarn-beam gear will make a thick place in the cloth. If the yarn-beam journal is loose or worn badly, it sometimes lets the gears jump or skip and a thick place results.

### What Makes Thin Places?

When filling yarn is spun from two ends of roving, one end of roving may break and several yards of yarn is spun from the single end. This singling naturally makes a filling yarn of half size. Such defective filling yarn makes a light or thin place in the cloth.

Thin places are also made when the weaver fails to release the take-up mechanism when the loom is restarted at filling breaks. The let-back may be broken, stuck, or set incorrectly. The weaver should find this condition and flag the loom for the loomfixer. To correct the error in the let-back motion, the weaver should move the lay to its extreme forward position and adjust the fell of the cloth correctly against the reed.

### How To Stop Wavy Cloth

Wavy cloth is a defect that's often hard to detect at the loom, but it usually shows plainly when the cloth is inspected over a light. This defect is also greatly magnified after the cloth is finished, especially in some napped and bleached fabrics. The waviness can appear as alternate thick and thin places or occasional thick and thin places. But it usually follows a definite pattern.

Most wavy-cloth troubles are traced to the take-up motion or let-off motion of the loom. When the take-up motion is checked for wavy cloth, the following parts should be inspected:

1. Loose or crooked take-up-roll journals
2. Worn fillet on the roll, or fillet not suitable for the weave
3. Loose take-up-roll bearing
4. Take-up-roll journal binding in the bearing, caused by a lack of lubrication or by misalignment
5. Loose take-up-roll gear
6. Broken teeth in one of the gears in the take-up-gear train.
7. Take-up gears meshed too deep
8. Gears and studs binding
9. Lint and foreign matter in the gear teeth
10. Take-up clutch slipping
11. Worn or loose worm, worm gear, or take-up driving gear or shaft

Wavy cloth caused by the let-off motion can usually be traced to:

1. Worn or loose yarn-beam journal or bearing
2. Worn or loose teeth in the let-off gear, the internal gear in the Roper let-off, or the ratchet gear
3. Let-off shaft not aligned correctly
4. Ratchet pawl slipping
5. Worn pallet
6. Friction band binding or slipping
7. Connecting lever link loose
8. Vibrator rod or spring binding

Wavy cloth is also caused by a defective shedding motion or beat-up motion and by a loose breastbeam or lay.

### Warps Make Uneven Picks

Uneven picks are common in low-count drills and twills. The filling ends are not spaced uniformly, which gives the cloth a rowy appearance. This defect results when each sheet of warp yarn lies in the shed irregularly on succeeding picks.

The primary causes of uneven picks are: (1) harness cams worn or loose on

CONTINUED ON PAGE 228

# TROUBLE SHOOTING
## On Electrical Controls

**● The most important and, without doubt, the most difficult job in the electrical department is trouble shooting. Here is a guide for training a trouble shooter, plus a checklist to use on electrical controls.**

TROUBLE SHOOTING IS the most disagreeable job in the electrical department of textile mills; and since it is such a disagreeable operation, adequate preventive maintenance should be practiced on all electrical equipment to cut trouble shooting to a minimum.

### Special Training Is Necessary

The trouble shooter is often the poorest trained man in the electrical department, since experienced electricians do not want the job. It's hard to get a good man for the job because (1) the job requires working under pressure in emergency conditions, and (2) there's a hazardous condition on most jobs.

But trouble shooting should be given to the most intelligent and best-trained man in the electrical crew. The long training period necessary for electrical-maintenance men is especially important in the training of a trouble shooter.

Since 90% of the motors used in textile mills are the a.c. squirrel-cage type with reduced-voltage compensators or magnetic breakers as starters, the trouble shooter must be trained in the operation and maintenance of this equipment. He must know how to look for electrical trouble, and he must have the proper tools to make tests without endangering his life.

The tools necessary are a prong voltage tester, a clamp-on voltage ammeter, a well-insulated set of fuse pullers, and an insulated megger.

The trouble shooter should have simple diagrams of all electrical circuits in the plant, and studying the diagrams should be an essential part of his training. The manufacturer of control equipment should provide an elementary diagram with each control, and this diagram should be kept with the control.

A trouble shooter is usually needed when there are few assistants to help, a machine is shut down, production is being lost, and everyone is anxious to correct the trouble. Therefore, the trouble shooter must have a cool head, must know the electrical circuits and equipment, and, above all, must be able to analyze his troubles.

The trouble shooter must be willing to assume responsibility to prevent the loss of production and equipment and the loss of pay to many production workers. If he runs his job correctly, a trouble shooter also prevents expensive use-and-occupancy claims against the insurance company.

### Correct Fuse Trouble First

The most-common electrical trouble in textile mills is blown fuses. A good trouble shooter looks for this trouble first; or, where air circuit breakers are used before the starter, the breaker is checked to see if it has tripped.

If the breaker has tripped and the reset trips out again immediately, the trouble shooter should test the circuit or the motor for a short or ground. However, in the case of a blown fuse, he should examine the fuse housing; in many instances the fuse or the housing offers a clue to the cause of the trouble. Here are some clues:

1. **If a loose contact caused the trouble,** the fuse contacts will be oxidized and dull. The oxidization is caused by air getting to the contacts and overheating them.
2. **When only one end of a fuse is oxidized,** the fuse clips are loose.
3. **An oxidized or discolored bottom contact** on a plug fuse indicates that the cap was not screwed down tight.
4. **A burned or partially melted washer** or end ring on a ferrule-contact fuse also shows that the cap was not screwed down tight.
5. **Charring of the ends of fiber tubes** on one-time fuses or renewable fuses indicates an inadequate contact.
6. **A loose contact at one end of a renewable fuse** will usually blow the link at the loose-contact end.
7. **If a renewable fuse link blows in the center,** the contacts are good and the blowing is caused by a light overload. In this case, replace the fuse and check the current on each motor phase with a clamp-on meter. If the current registered is greater than the name-plate amperage, look for overloads.
8. **Clean blowing at either end of a renewable fuse** may be caused by a poor contact, but it is usually caused by a normal blowing condition. To correct, check the fuse rating against the ambient temperature.

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*Based on a paper presented by H. C. Colbath, plant engineer, Bibb Mfg. Co., Macon, Ga., at a recent meeting of the Textile Subcommittee of the American Institute of Electrical Engineers at Raleigh, N. C.*

9. **A nonrenewable fuse link** blows in the middle of the line when it is performing its designed functions; for example, protecting against overloads. But it will blow at one end when the failure is even partly caused by a poor fuse contact.

10. **When any fuse is being replaced**, be certain you use the proper-size fuse. An arc may result from the wrong-size fuse and cause serious harm to workers and equipment.

### Ask the Manufacturer for Help

When control trouble becomes chronic, the equipment manufacturer can often help you. Send him a sample of the damaged or broken parts and give him all the information possible; include the name-plate data and name-plate data of the machine the control is used on and how it is used. Further helpful information to supply him is the voltage and frequency, length of time the equipment has been in service, and the way the trouble occurs. If you have any opinions on what causes the trouble, include them in your information because this may give him a lead that will result in a quick solution to your problem.

If you have repeated trouble with a group of controls, there has probably been an error in design or the manufacturer has used some bad materials. These errors do not happen often. Contact the manufacturer at once and report your troubles so he can correct them.

The trouble shooter encounters trouble on several types of control equipment, including the resistance starter or compensator, electronic controls, timing relays, electric brakes, valves, thrustors, resistors, rectifiers, capacitors, transformers, etc.

But the most common troubles encountered are the fuse, knife disconnect, air circuit breaker, and magnetic or combination control.

The trouble shooter should be given a good trouble shooter's guide. The manual should offer tips similar to those in the checklist below.

## Trouble Shooter's Guide

**Trouble: Coils overheated**
**Indication: Roasted**

| Cause | Remedy |
|---|---|
| a. High voltage | Check for high voltage |
| b High ambient | Check application |
| c. Wrong coil. | Check manufacturer |
| Short-rated coil used for continuous service | Use high-temperature insulation where necessary |
| d. Dirty | Clean with mineral spirits |
| e. Corrosion | Clean |
| f. Shorted turns | Replace coil |
| g. Rapid jogging | Check operation |
| h. Undervoltage | Check circuit interlock<br>Regulate voltage |

**Trouble: Open circuit**
**Indication: Cool**

| Cause | Remedy |
|---|---|
| a. Moisture, corrosion | Replace with special insulated coil |
| b. Mechanical damage | Repair leads, or replace coil |
| c. Vibration or shock, broken wire, or insulation failure | Relocate switch. Coil should be held firmly in place at all times |

### CONTACTS

**Trouble: Contacts chatter**
**Indication: Noisy**

| Cause | Remedy |
|---|---|
| a. Poor contact in control pick-up circuit | Improve contact, or use holding interlock |
| b. Excess jogging | Evidently contact not made for jogging. Caution operator |

**Trouble: Overheating of contact tips**
**Indication: Blue or black open interlock**

| Cause | Remedy |
|---|---|
| a. Broken pole shader | Replace |
| b. Contactor slams | Increase pressure on interlock and wipe |
| c. Copper oxide on contact tips | Install silver-face tips. If copper tips, file with fine file. |
| d. Continuous load | Install silver tips |
| e. High inductive load | Install silver tips or larger switch |
| f. Sustained overload | Install larger switch, or reduce load |
| g. Insufficient tip pressure, loose connection | Clean, adjust, and tighten. Note: Check for millivolt drop across current-carrying connection to locate origin of excessive heating |

**Trouble: Short-circuit currents on contacts**
**Indication: Pitting**

| Cause | Remedy |
|---|---|
| a. Feeder fuse or breaker excessive | Use smaller feeder protection, or reduce short circuit |

**Trouble: Short tip life**
**Indication: Repeated replacement**

| Cause | Remedy |
|---|---|
| a. Interrupting high currents Tip-life varies inversely as square of current interrupted. Note. Jogging often wears tips 25 times as fast as an equal number of common starts | Replace copper tips with silver, or install proper device for jogging service |
| b. Excessive dressing | Do not file silver tips |
| c. Oil-immersed device used | Change to air-breaker device. It will last longer, because oil-covered contacts burn 20 to 40 times as fast as air contacts |
| d. Mechanical rebound on drop-out causing tips to touch | Reduce rebound, or have manufacturer correct |

**Trouble: Weak tip pressure**
**Indication: Easy to operate**

| Cause | Remedy |
|---|---|
| a. Wear allowance gone | Replace and adjust |
| b. Poor tip adjustment | Adjust gap and wipe |

## Trouble Shooter's Guide (continued)

**Trouble: Welded or freezing**
**Indication: Contacts will not open**

| Cause | Remedy |
|---|---|
| a. In-rush current too great. Ten times continuous rating | Reduce current. Install nonweld tips. Install larger switch |
| b. Rapid jogging | Check advisability of installing copper tips |

**Trouble: Failure to pick up**
**Indication: Will not close**

| Cause | Remedy |
|---|---|
| a. Low voltage on coil. Coil open, or shorted turns on coil. Wrong coil | Check and regulate system voltage. Replace coil |
| b. Excessive magnet gap, or magnet overloaded | Check with manufacturer for instructions |

**Trouble: Failure to drop out**
**Indication: Will not clear**

| Cause | Remedy |
|---|---|
| a. Mechanical binding | Check, clean, and lubricate very slightly |
| b. Gummy substance on magnet faces | Clean |
| c. Worn bearings | Replace bearings |
| d. Nonmagnetic gap in magnetic circuit destroyed | Replace magnet |
| e. Contact tip welded | Clean, replace, and check for short circuit, or heavy starting loads |
| f. Ground, causing coil to remain energized through feed-back | Clear circuit |
| g. Improper magnet adjustment, or not enough load on magnet | Check coil voltage. Check instructions |

### ARC SHIELDS

**Trouble: Pitted, worn, or broken**

| Cause | Remedy |
|---|---|
| a. Moisture. Rough handling. Excessive loading | Eliminate moisture. Replace worn chutes |

### THERMAL HEATERS

**Trouble: Heater failure**
**Indication: Single phasing**

| Cause | Remedy |
|---|---|
| a. Short circuit, or loose connection | Install reactors ahead of control, or tighten screws |

**Trouble: Heater tripping on underloads**
**Indication: Stoppage of equipment**

| Cause | Remedy |
|---|---|
| a. Low voltage. High ambient temperatures | Correct voltage. Move switch. Install fan. Calculate heater size to compensate for ambient |

**Trouble: Control shaken to pieces**
**Indication: Loose parts**

| Cause | Remedy |
|---|---|
| a. Vibration | Relocate control. Possible in some instances to install more-rugged control |

**Trouble: Failure to trip**
**Indication: Damaged equipment**

| Cause | Remedy |
|---|---|
| a. Wrong size | Check size and replace with size shown in control cover or catalog |
| b. Mechanical binding, dirt, corrosion, etc. | Replace relay |
| c. Motor and relay in different ambient temperatures | Relocate control |

**Trouble: Trips too fast**
**Indication: Stoppage of equipment**

| Cause | Remedy |
|---|---|
| a. Worn or broken parts | Replace |

### MAGNETS AND OTHER MECHANICAL PARTS

**Trouble: Worn or broken parts**
**Indication: Faulty operation**

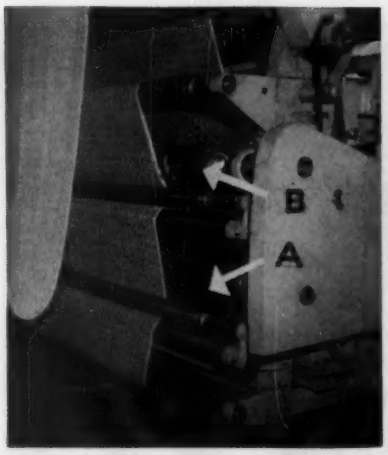
| Cause | Remedy |
|---|---|
| a. Heavy slamming caused by high voltage, underloading, heavy-duty coil | Inspect and reduce voltage or change to proper coil |
| b. Chattering due to broken pole shader, or poor contact in control circuit. Too much jogging | Replace parts. Mount on rubber or springs |

**Trouble: Noisy magnet**
**Indication: Humming noise**

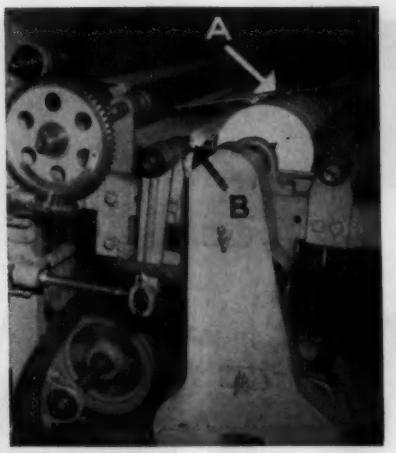
| Cause | Remedy |
|---|---|
| a. Broken pole shader, magnet faces not true due to wear or mounting strains | Use d.c. magnet mount on rubber |
| b. Dust or rust on magnet faces | Clean |
| c. Low voltage | Check and raise |
| d. Improper adjustment | Adjust |
| e. Magnet overloaded | Check with manufacturer |

**Trouble: Broken pole shader**
**Indication: Faulty operation**

| Cause | Remedy |
|---|---|
| a. Heavy slamming due to overvoltage, weak trip pressure, wrong coil | Replace and correct trouble |

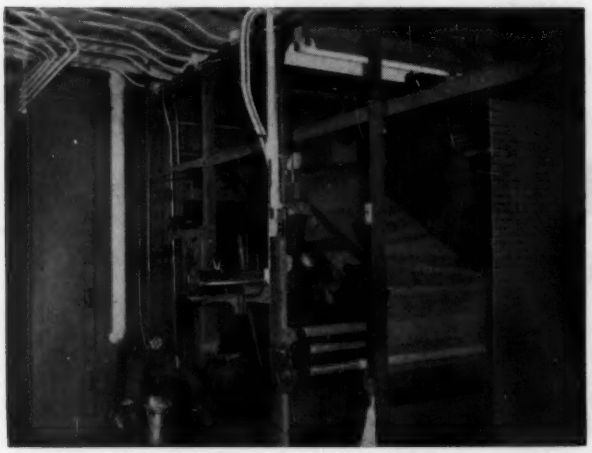



**1.** UPHOLSTERY FABRIC to be coated starts its trip through the coating-and-drying range by a pass against beater *A* and brush *B*, which remove loose yarn and fly that might cause streaks.




**2.** COATING takes place at roll *A*, with the amount of coating-solution pickup from the roll being controlled by heavy or light adjustment of doctor blade *B* against the roll. Another doctor blade cleans the roll.

**3.** AUTOMATIC GUIDERS between the coater and dryer place the cloth on the pins of the dryer chain for the trip through the dryer. A slack loop ahead of the guiders prevents tension on the cloth.



**4.** CLOTH ENTERS THE DRYER at a speed adjusted for the drying time required by the weight of the cloth. Louisville's average upholstery fabric dries at a speed of 25 yds. per min.

**5.** FABRIC DRIED AND CURED in eight passes through the dryer is folded on a truck at the delivery end of the range. Heat is kept at 250° F., and fabric speed is varied for different fabrics.

# LATEX COATING
## Improves Upholstery Fabrics

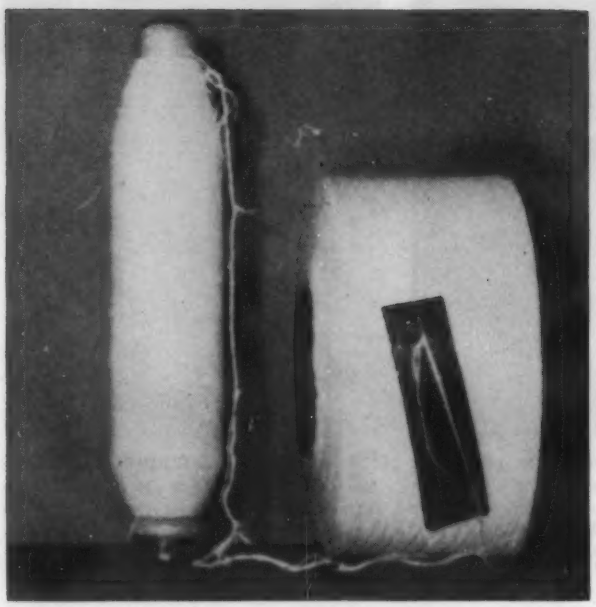
**● To help stabilize upholstery fabrics, Louisville Textile applies a latex-compound backing of 20% solids. Coating and drying are continuous, at an average speed of about 25 yds. per min.**

LOUISVILLE TEXTILES, INC., Louisville, Ky., has installed a modern coating and drying range that is used in finishing many of its styles of upholstery fabrics to make them lie better in the cutting room, ravel less after cutting, and be more stable after they have been made up.

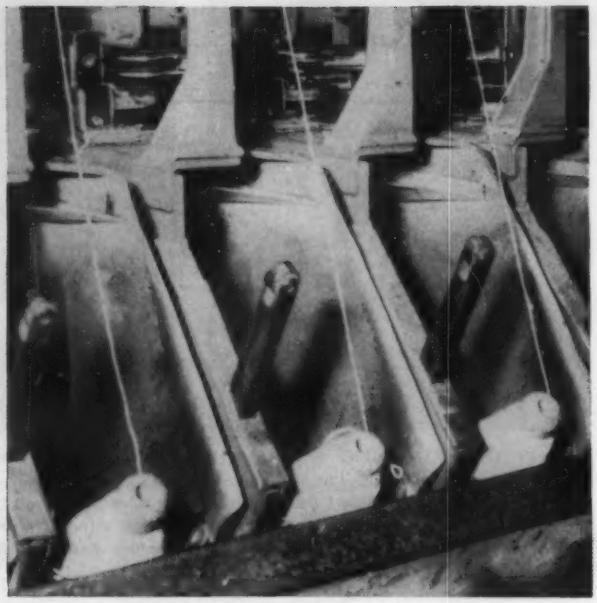
The range consists of a Mawaco coating machine working with an eight-pass Proctor & Schwartz drying and curing tenter. The latex solution is a synthetic material supplied in 35% concentration. The only other ingredient in the coating formula is a gum used to make the mix more viscous.

The coating solution is prepared by adding sufficient latex and gum to get a mix with 20% solids. Cold water is used to dilute the mix, and it is stirred by a high-speed propellor-type power mixer. A full mix is 588 gals.

The accompanying pictures show the sequence of the coating-and-drying operation.



SLOUGHED-OFF YARN can cause trouble if it gets on the cheese. Such bobbins should be run down as far as possible and returned to the spinning department. The waste should not be charged to spooling.



BOBBINS tending to slough off can be taped with cellophane tape at the nose to prevent unnecessary waste before they are repaired in the spinning department.

# Formulas for WASTE STANDARDS Cut Yarn-Preparation Costs

**These formulas provide waste standards to judge against your actual waste. The comparisons, by revealing flaws in processing, are a valuable tool in cutting down waste. To use the formulas—**

- **List the technical data of the process**
- **Make adequate tests of the major sources of waste**
- **Apply your results to the outlined formulas**

**By D. E. BAYLIS**

WASTE STANDARDS properly set and maintained provide maximum use of stock. When actual waste percentages are compared with the standards, your progress in waste reduction can readily be seen.

These waste formulas are typical of those that can be applied to any yarnroom process. For the information required for the formulas, make a list of the technical data of the process for which you are setting the standards and make adequate tests on the major sources of waste at the process. Then apply your own results to the outlined formulas, and calculate the standard for the process.

## Standards for B-C Spoolers

Make adequate tests to determine the minimum waste allowances. Hold to essentials because too much detail will clutter up the formula.

### Tying Up

The formula for tying waste is:

[yards of waste × (percentage tailings + 100)] ÷ yards per bobbin

Tests should indicate 2 yds. of yarn waste from the cheese and 2 yds. from the bobbin to be tied, for a total of 4 yds. of yarn waste for every bobbin tied. The distribution of tailings should be determined by adequate tests. These tests should include knotter failures, bad bobbins not attributed to spinning, slubs in yarn, and miscellaneous items such as splintered bobbins. If these causes, in order, are 2%, 1%, 25%, and 2%, a typical calculation will look like this:

$$\frac{4 \times 130}{5{,}594} = 0.093\% \text{ yarn waste}$$

#### Starter Waste

The formula for starter waste is:

[weight of skinned starter (oz.) × 100] ÷ [16 × times a starter can be used × net weight of cheese]

Tests should indicate that a starter can be used 40 times before it becomes too frayed for further use. The amount of waste each time a starter is skinned is approximately 2¼ oz. Here's a typical calculation:

$$\frac{2.25 \times 100}{16 \times 40 \times 2.66} = 0.132\% \text{ yarn waste}$$

#### Repairing Cheeses

Sometimes the yarn being wound will not stay in the traverse groove of the drum of the spooler, and ringers are formed on the cheese. Also, frayed cheeses are formed in spooling occasionally. The formula for waste from bad cheeses is:

[percentage waste per bobbin for one round of traveler × 100] ÷ maximum bobbins tied per round of traveler

Our tests show that yarn waste from repairing cheeses is ¾ of a full bobbin for each full round of the traveler. A sample calculation will look like this:

$$\frac{0.75 \times 100}{288} = 0.260\% \text{ yarn waste}$$

#### Strips

The formula for waste from strips is:

[percentage of bobbins that end up as strips × grains per strip × 100] ÷ [pounds per bobbin × 7,000]

Strips will weigh approximately 17 grains each. We found that approximately 4% of the bobbins processed end up as strips. Take only waste from actual strips into consideration. Often bobbins with a small amount of yarn not down to the wood are stripped instead of being returned to the spooler for use.

Here's the sample calculation:

$$\frac{0.04 \times 17 \times 100}{0.333 \times 7{,}000} = 0.025\% \text{ yarn waste}$$

#### Condenser Fly

The formula for condenser fly is:

[pounds of fly obtained from test × 100] ÷ pounds of yarn processed

To establish the amount of waste at the condenser, break off the matt of fly waste at the condenser; then run 5,000 lbs. of yarn onto the cheeses, and save the fly waste coming from the condenser while the yarn is being spooled. A typical calculation is:

$$\frac{1.75 \times 100}{5{,}000} = 0.035\% \text{ fly waste}$$

Add the waste percentages obtained in the preceding calculations to determine the waste for Barber-Colman spooling. The total for our typical calculations is 0.545%.

### Standards for Warpers

Base test information on the type of yarn warped. For example, sets of dyed or bleached yarn may be shorter than natural yarn sets because of smaller supply packages in the creel. Since end breaks are generally infrequent, they are not required for test information. The formula for warpers should include these sources of waste:

Threading up a sheet of ends from the creel to the warper requires approximately 6 yds. of yarn.

Laying a sheet of ends in the comb and straightening them requires approximately 2 yds. of yarn.

Starting up the beam should test out at 2 yds.

The beam run-out will generally come to 6 yds. of yarn.

The formula for warper waste is:

[(yards of waste at beginning of beam + yards of waste at end of beam) × 100] ÷ yards in supply

Here's the calculation:

$$\frac{(10 + 6) \times 100}{44{,}600} = 0.036\% \text{ warper waste}$$

### Standards for Winders

All winding processes can be treated basically in the same manner as outlined in the Barber-Colman spooling and warping sections.

Setting a waste standard for dyed yarn is often controversial. The dyer frequently says that since he has no control over hard or soft packages sent him by the winding or yarn-preparation department, he should not always be blamed for poor dyeing. But since the dyer knows he has the right to reject poor packages that he judges will dye badly, we have resolved the problem by charging all dyed-yarn waste to the dyehouse.

To set a standard for dyed-yarn waste, it is necessary to list pounds per batch, pounds per tube, and batches per week. Tests for several weeks should reveal the major sources of yarn waste and the amount of waste.

#### Winding on Dye Tubes for Redyeing

The formula for waste caused by rewinding on dye tubes for redyeing is:

[yards of waste per package × 100] ÷ yards per package + [ounces of waste per redye × 100] ÷ weight of redye batch

There will be about 2 yds. of waste for each package rewound. Also, there will be about 12 oz. of waste per redye batch caused by channeling or blown packages. The calculation looks like this:

$$\frac{2 \times 100}{20 \times 840} + \frac{0.75 \times 100}{560} = 0.146\% \text{ colored-yarn waste}$$

#### Stripping Empty Dye Tubes After Rewinding

The formula for waste in stripping dye tubes after rewinding for redyeing is:

[ounces of waste per tube stripped × percentage of stripped tubes per batch × 100] ÷ [tubes per batch × ounces of yarn per tube]

Tests indicate that about 10% of the tubes rewound for redyeing have to be stripped. Each stripped tube has approximately 3 oz. of yarn. The typical calculation is:

$$\frac{3 \times 10 \times 100}{560 \times 16} = 1.875\% \text{ colored-yarn waste}$$

The rewinding and stripping waste figures added together make a total of 2.021% for colored-yarn waste. If an average of 5% of the total amount of yarn dyed requires redyeing, the standard can be calculated by taking 2.021% of the 5%, for a standard of 0.10%.

### Standards for Twisters

Since twisting processes have many variations, only beam twisting will be discussed here. However, by gathering information about the factors influencing waste, you can use a method similar to the one outlined here for calculating standards.

Since frequently the waste dealer offers a better price for separated single- and ply-yarn waste, we separate our data by these two classes.

The formula for single-yarn waste is:

[(waste from beam creeling + waste from beam run-outs) × 100] ÷ length of beam

Single-yarn waste from beam creeling runs approximately 5 yds. Waste from run-outs is about 15 yds. Here's the calculation:

$$\frac{20 \times 100}{21{,}500} = 0.093\% \text{ single-yarn waste.}$$

The formula for ply-yarn waste is:

[number of end breaks per 1000 spindle hours × cycle time × 100] ÷ [1,000 × 60(mins.)]

Ply-yarn waste caused by end breaks should amount to about 15 end breaks per 1,000 spindle hours. Since we lift the twister bobbins adjacent to the broken end, we end up with 45 end breaks per 1,000 spindle hours. Cycle time is calculated by determining the number of patrols per hour. We find that a twister tender goes by a given spindle once every 6 mins. Therefore an end break runs unattended for this time. Our sample calculation runs like this:

$$\frac{45 \times 6 \times 100}{1{,}000 \times 60} = 0.450\% \text{ ply-yarn waste}$$

Total waste in twisting is 0.093 + 0.450 = 0.543%

## Card-Grinder Training—

# HOW TO SET CARDS

This second article of a series of pictures and captions on how to set a cotton card covers—

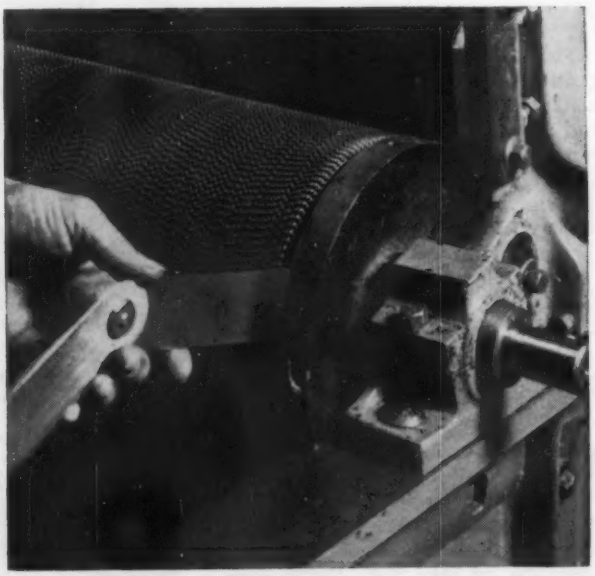
- Lickerin
- Cylinder screens
- Lickerin screen

For the first article, which covered dismantling, aligning, leveling, and cylinder doffer clearances, see TW, Jan. '55, p. 102.

By P. C. KOCHHAR, Industrial Rayon Corp.

## Setting the Lickerin to the Cylinder

LICKERIN TO CYLINDER. With the lickerin back in place, use a leaf gauge to set the lickerin to the cylinder. The setting usually recommended is 0.007 in. Care should be taken to set the ends of the lickerin to the cylinder so that there is an even drag on the gauge all the way across the card and at any point on the circumference of the lickerin.



LICKERIN SHROUDS. Adjust the clearance between the ends of the lickerin and the shrouds to 0.010 in. at each end. If the shroud is worn so much that an accurate adjustment cannot be made, it should be replaced and the lickerin reset to the cylinder. If the lickerin bearing has to be moved in or out to obtain the 0.010-in. clearance, the lickerin-to-cylinder setting should be rechecked.

Photos taken at N. C. State College.

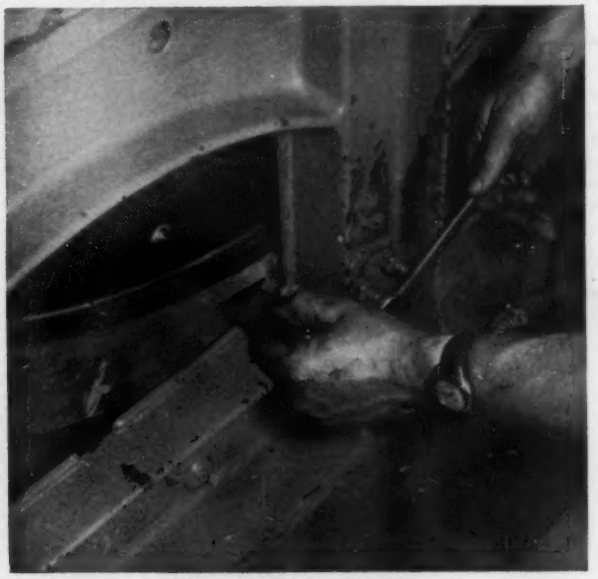
## Setting the Cylinder Screens

In preparation for setting the screens, remove the lickerin and check the lickerin screen for damage. Be sure the screen is smooth and clean and there are no bent or broken ribs.

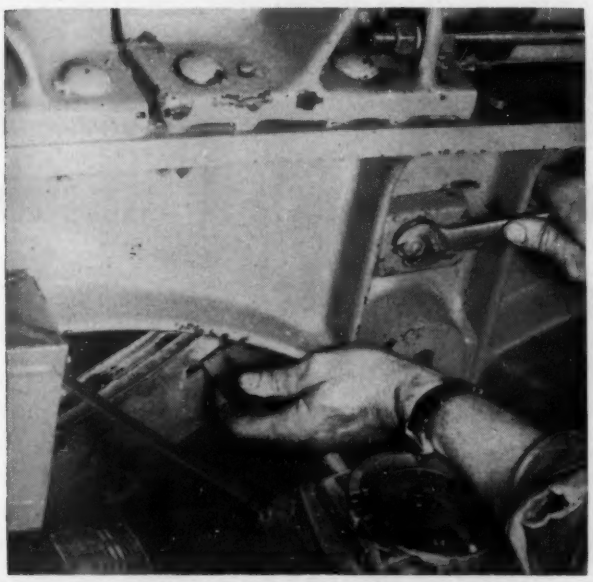
Remove the back and front cylinder screens, clean them, and check for rough places, bent or broken ribs, and bent flanges. Replace the screens.

NOTE: All final card settings should be made by backing off on the adjusting screws.

STEP 1. With the lickerin still removed, set the lip of the cylinder screen to the cylinder. This and other settings must be made on both sides of the card.



STEP 2. Set the middle of the cylinder screens to the cylinder. Be sure that the screen studs, bracket, and adjusting screw are all clean so that correct settings can be made.



STEP 3. Set the front of the screen to the cylinder. As shown here and in Step 2, after the setting is made with the adjusting screw, gauge the setting during and after locking the adjusting bracket.

STEP 4. After the screens have been set on both sides of the card, check the clearance between the edge of the cylinder and the screen flanges. If it is uneven, correct with the setscrews in the adjusting bracket.

**Turn to page 147**

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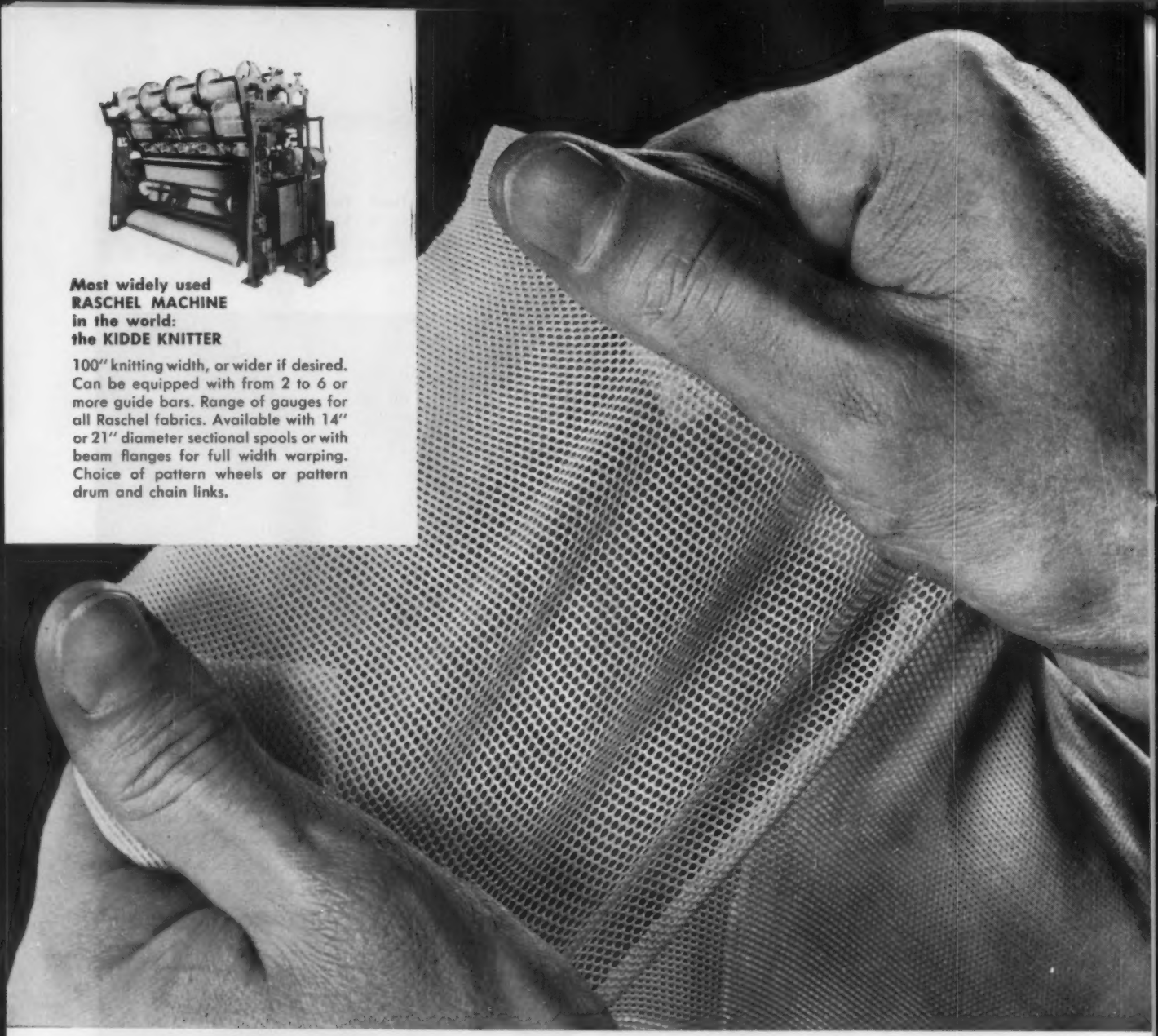

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## Setting the Lickerin Screen

STEP 1. With the cross-shaft used to set the lickerin screen in place in the lickerin bearings, use a 0.007-in. gauge (or whatever gauge is used to set the lickerin to the cylinder) to adjust the setting arm to the lickerin-to-cylinder setting.

STEP 2. Set the front of the lickerin screen (which is part of the cylinder screen) to the adjusting arm with the 0.007-in. gauge. To change the adjustment, raise or lower the back edge of the lickerin screen, maintaining the screen-to-cylinder setting.

## How To Use the Gauge

STEP 3. If a two-piece lickerin screen is used, set the middle of the screen to the adjusting arm with the 0.007-in. gauge. If a one-piece screen is used, set the back edge to the gauge. Check the screen circle at several points.

OKAY . . . for the middle setting, to press the gauge down to fit the screen circle as an alternate to the method shown in the picture to the left.

DON'T . . . use this method for making the back setting when you are adjusting the circle of a two-piece lickerin screen. The joint at the middle may throw you off.

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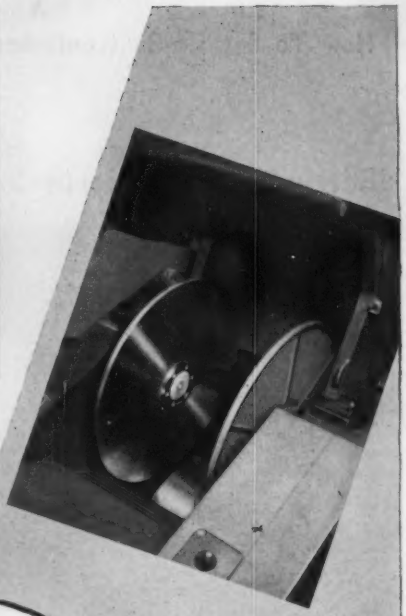

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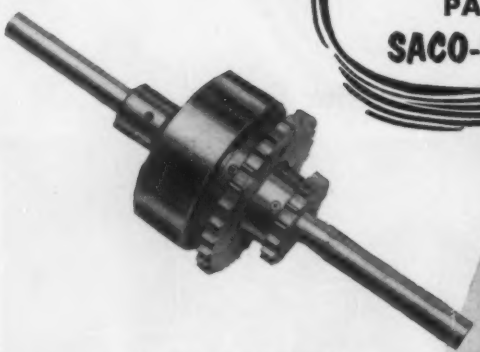

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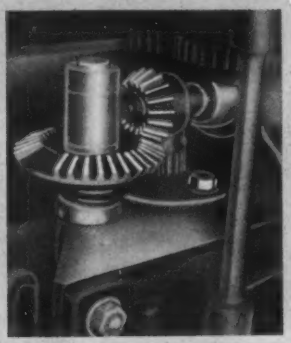

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**You hear a lot about getting along with your employees. But what about that other important relationship—your dealings with your boss? Whether you hope to get promoted or just want to be happy in your present job, you need to know—**

# How To Get Along With Your Boss

**By M. A. CROSS,** Director of Industrial Relations, Dan River Mills, Inc.

No person is more important to your present job or future success than your immediate superior. Obviously, it pays to be on good terms with him; and it's only sensible to try to improve your relationship with him.

How do you go about it?

Of course, the first thing you do is a better job. But there are particular ways in which you, as a supervisor, affect your boss's own job. Intelligent handling of your day-to-day dealings with him helps both of you.

Here, for example, are some things you can do to better your relations with him:

### 1. Admit any mistakes you make.

Brother, how we hate to do it. But unpleasant as it may be, it's still the wise course of action to admit a mistake and to do so as quickly as possible after you discover the error.

Your boss knows that everybody who does anything, who makes decisions, inevitably makes mistakes. In all probability, he will respect you if you have the courage to admit them frankly. The sooner he knows about them, the sooner they can be corrected and the actual or potential damage minimized. Furthermore, any boss will have more confidence in the man who is big enough to admit errors at a cost to his personal pride rather than conceal the mistakes to the detriment of his department.

The next step is to make sure you don't repeat the same mistakes. Respect for your courage in frankly admitting errors will rapidly evaporate if you continue to make the same errors.

### 2. Keep the boss informed.

There is nothing more embarrassing to a boss than to learn from sources outside his own department—and possibly from *his* boss—that some problem has developed that he didn't know about. Your boss, in that situation, feels just as uncomfortable as you do when you have to admit a mistake.

Your job is to keep him from finding himself in that embarrassing position. As problems come up, keep him posted. Let him know of any developments that can lead to potential difficulty. If he is informed, he will be able to assist in corrective action and reduce the impact of any possible setback.

Of course, if things are going smoothly, let him know that, too, so he can turn his attention to other things.

Don't make the mistake of depending entirely on routine reports to keep your boss informed. No matter how extensive your system of reports may be, they are never complete enough or timely enough to give him all the information he needs.

### 3. Be prepared to recommend solutions.

In the process of keeping the boss informed, you should let him know about any developing problems. At the same time, you should be prepared with recommendations about how these developing problems can be solved.

Let's say, for example, that you have seen indications that costs are getting out of line. That calls for a careful analysis on your part. Why are they getting out of line? Examine all the possible reasons, then narrow them down to the one or two most important factors.

Are they factors within your control and within your authority to correct? If not, where is the point where corrective action should be taken? Analyze the possible corrective remedies that could be applied. Decide on the steps you think should be taken, and spell out the reasons you believe these particular steps would produce the desired results.

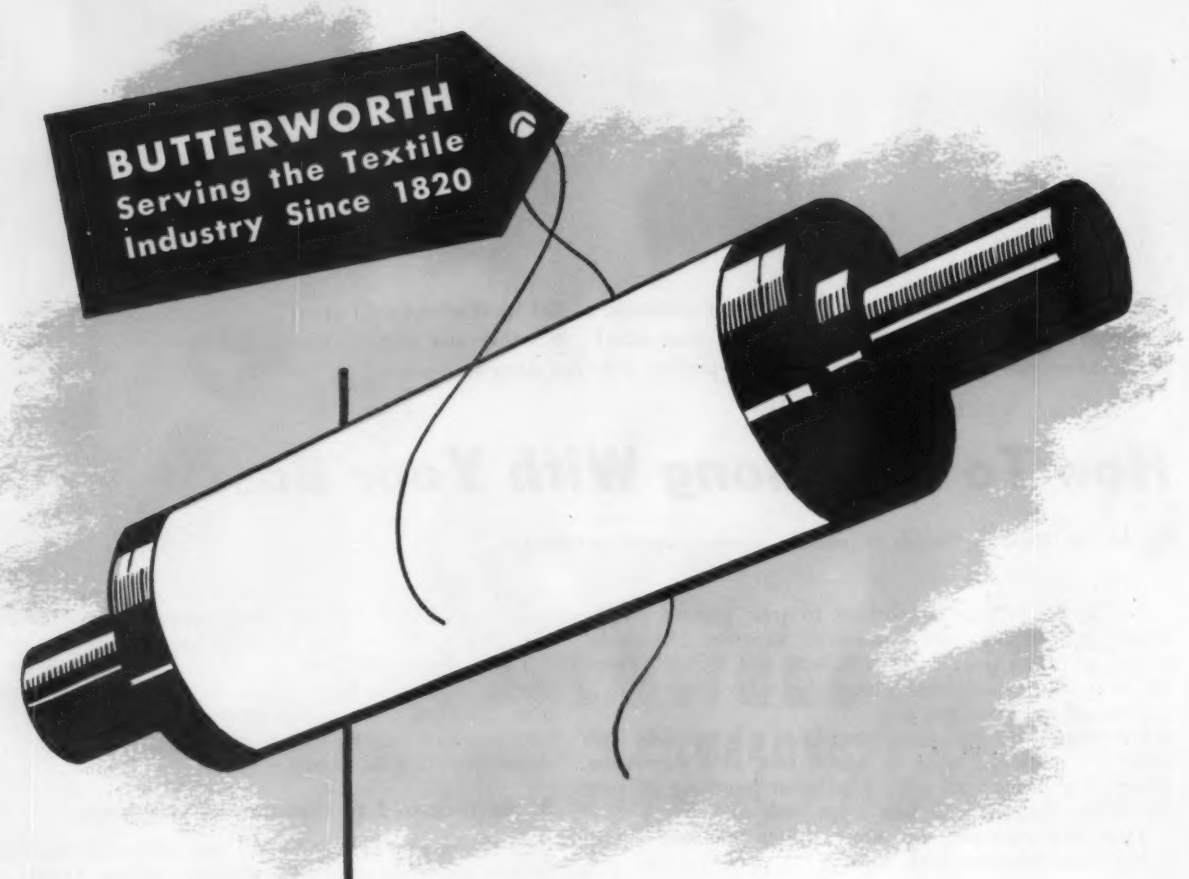
A careful analysis of this cost problem may lead you to the conclusion that you can proceed with corrective measures without consulting your boss. If you find, on the other hand, that his approval is necessary or desirable, you are ready with a recommendation. You are not simply presenting a problem; you are also suggesting a solution.

This kind of approach is clearly going to improve your relationship with your boss. It is evidence of your interest in your job, of your determination to carry your share of management responsibility, and of your willingness to take on the boss's problem and not just drop it in his lap.

### 4. Don't pass the buck.

Higher management is always looking for men who are not afraid of taking responsibility. It is not looking for men who are adroit at shifting the responsibility to someone else.

CONTINUED ON PAGE 151

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## POINTERS FOR SUPERVISORS CONTINUED FROM PAGE 149

If you make a decision that subsequently proves to be wrong, accept the burden of blame yourself. Don't pass the buck to a subordinate supervisor or to an employee who merely carried out your orders.

In some cases, it may not be clear exactly who was responsible for an error in judgment; perhaps it was a shared or joint decision in which several people were involved. Even in that situation, it is generally wiser to accept the full responsibility. Your boss is likely to respect your courage; your associates definitely will. You establish yourself as a person who can be relied upon and as one who seeks, not dodges, responsibility. You build confidence in your dependability.

### Remember — He's Human

In all your dealings with him, remember that your boss is an individual, with human failings and feelings. It's only smart to study his strengths and weaknesses and to learn to consider his personal reactions and his particular working methods, likes, and dislikes.

But whoever he is and whatever he is, you'll get along with him if he learns that he can rely on you and can have confidence in your courage, your willingness to accept responsibility, and the fact that you are on top of your job.

---

## STEEL ROLLS CONTINUED FROM PAGE 133

of steel drafting rolls show that yarn evenness and strength are dependent on the use of straight rolls. The effect is not too significant when the eccentricity is not greater than 0.003 in.; but at approximately 0.005-in. run-out, the deterioration of the yarn is pronounced. The effect increases rapidly when eccentricity exceeds 0.005 in.

Unlike repairing wear of joints, roll straightening can be performed in the mill as long as care and patience are used. The most-common method of straightening steel rolls is to revolve the roll slowly by hand and hold a piece of chalk close to the roll. This distance is adjusted until the high side of the eccentric roll strikes the chalk and a mark is left on the roll surface. The high side of the roll is then pressed by a wooden lever that will not scar the flutes until the roll is straight.

Usually, the final straightness is not obtained by the first pressure but is achieved through a series of chalking and pressing operations. When the end of the roll is straight, the mechanic then moves to the next boss and continues until the entire roll is brought within the required tolerances.

Scouring, a part of the annual overhaul, is an essential step in keeping the rolls in top running condition and in lengthening their life. Scouring actually consists of two operations. The first is the minute inspection and repair of the individual flutes of each boss. Nicks, scratches, burrs, and rough or rusty spots that will catch fibers and destroy the orderly arrangement of the fiber strand as it is drafted must be removed. A large nick or damaged flute can cause both an increase in the number of ends down and a decrease in yarn evenness and strength at that particular spindle. Damage of this type to the flutes can be repaired satisfactorily by careful use of a small fine file. Care must be taken to avoid rounding the edges of the flute or cutting a deep hollow in the surface.

The second function of scouring is to clean and polish the surface of the roll. This step will remove the impacted waste, fly, stray fibers, and sticky gum from the flutes and will restore the fiber-gripping qualities of the roll.

The grip of the roll on the fibers at the nip of the top and bottom rolls is vital in maintaining the full effectiveness of the drafting element. When this nip is significantly decreased, the draft will not be carried out in a smooth, continuous manner and the evenness of the yarn will suffer.

Scouring usually consists of first cleaning the waste from the rolls and then washing them to remove the gums and oil picked up from the fibers being processed. After washing, the rolls are scoured with a mixture of whiting and kerosene until they regain a smooth, polished surface that will not catch or retard the movement of the fibers being drafted.

A much more serious wear is that of the roll necks that act as bearing surfaces on the roll stands. Signs of this wear are identical to that of any other bearing: grooves begin to show on the surface, the necks begin to wear into tapers, and the true bearing surface is lost.

When such wear occurs, the pressure of the roll is concentrated on the remaining bearing surfaces supporting the roll. The pressure is thus greater, and soon these surfaces are worn. The concentration of pressure thus travels from point to point along the bearing surfaces and remains at one point only until it, too, is rendered unserviceable. It is poor economy to continue to use rolls in this condition.

First, the smooth movement of the rotation of the roll is hindered by the drag and friction of the roughened bearings. The torque is magnified impreceptibly until the force jerks the roll past a sticking point that has caused a momentary hesitation of rotation. After a quick movement, the roll again slows down until the torque generated by the force of the gear starts the roll moving again.

This chattering of the roll wreaks havoc with the actual fiber drafting. Uneven drafting, thin and thick places in the strand, and resultant uneven twist reduce the appearance and strength of the finished yarn.

Second, the gears driving the rolls, and the gear studs, are placed under unnecessary strain. This strain accelerates stud and gear wear and may cause breakage of the teeth of the draft gears. The roughened bearing surfaces of the roll necks begin to cut into the bearings of the roll stands, and roll concentricity is destroyed. Hence, excessive wear of other components of the frame begins to accumulate, and total maintenance costs rise.

Third, the rolls will have to be replaced shortly if the frame is to remain in operation. This fact cannot be escaped. Therefore, it is not sound economy to allow worn parts, which must soon be scrapped, to continue to damage other parts that otherwise would have a far longer useful life.

Although it would be difficult to prove in actual dollars and cents figures, the costs of producing yarn of poorer quality and the costs of speeding wear on other frame components would very likely exceed the price of new rolls.

CONTINUED ON PAGE 228

# factory tests prove it!

## 23.9 man-hours saved for every 100 lbs. of lubricant used!

# Alemite cuts costs!

## all the way from barrel to bearing ...in maintenance...repairs... down-time...

## YOU SAVE...STEP BY STEP!

Any machine—anywhere in your plant—can have fast, power-operated high pressure lubrication—and you save up to 23.9 man-hours for every 100 pounds of grease applied! Your machines get added protection, insurance against costly breakdowns. You save in maintenance, down-time, labor and increased bearing life.

With this combination of Alemite equipment, every bearing is protected by "refinery-fresh" lubricant at all times. There is a combination of transfer pump and power gun just right for your plant, large or small—for any lubricant, light or heavy. Power guns are available in both air operated and electric models – from 25 to 50 pound capacity.

1

A drum of lubricant—any type—arrives at the plant—fresh—clean.

2

The Alemite Power Transfer Pump is inserted—lubricant is still sealed against contamination.

3

In just 60 seconds, transfer pump fills a big portable power gun with "refinery-fresh" lube.

Power gun goes to any department—even up and down steps—services hundreds of bearings!

4

**With Alemite Plan "C"**
**Only Refinery Clean Lubricant Reaches Bearings**

This combination of Alemite power transfer pumps and portable power guns is known as Alemite Plan "C". It is one of the five Alemite plans that your nearest Alemite supplier can show you. Ask him for your copy of the new Alemite Booklet "5 Plans for Better Lubrication." It will help you make lubrication plans that save money in your plant!

FREE! **New Booklet: "5 Plans for Better Lubrication"**

**ALEMITE, Dept. J-65, 1850 Diversey Parkway, Chicago 14, Illinois**

Please send me my FREE copy of "5 Plans for Better Lubrication."

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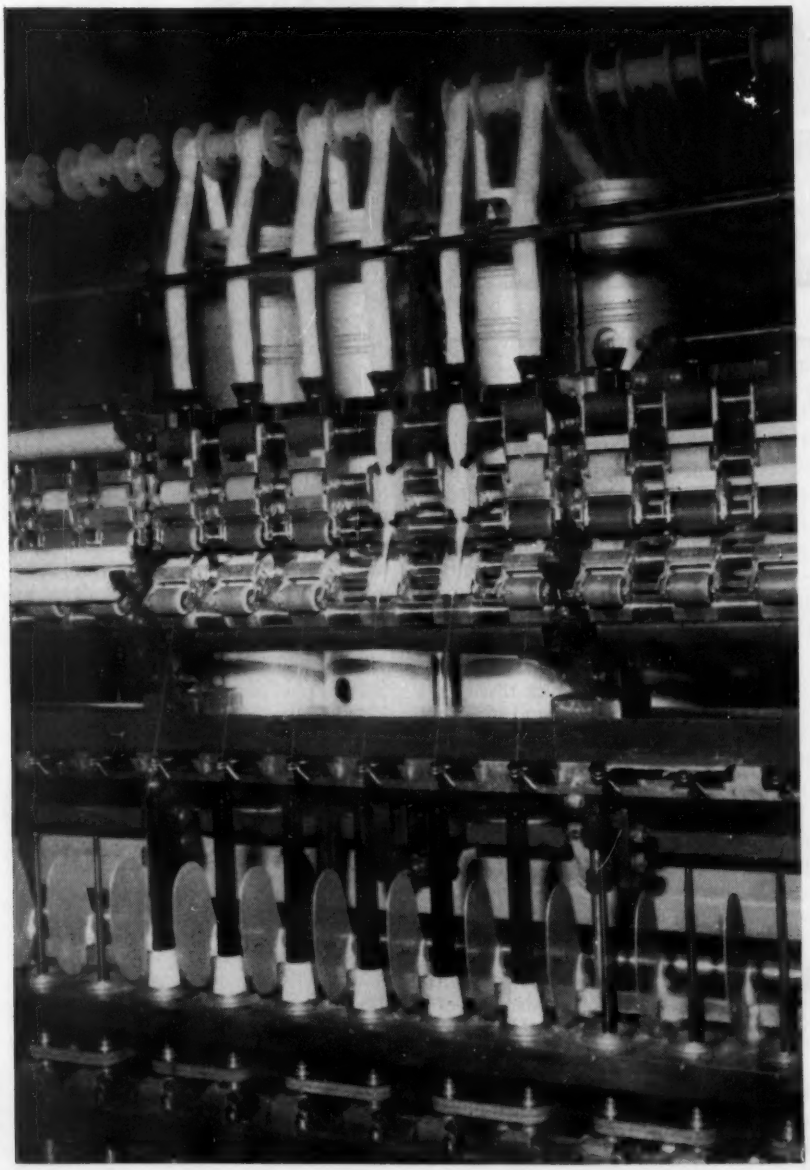
**Ask Anyone in Industry**

**DO YOU WANT MORE INFORMATION? At the end of each item is a symbol consisting of the letter "T" followed by a number. If you wish additional facts about any item, circle the corresponding symbol on the Reader-Service post card, page 191, and mail the card to us.**



## Sliver-to-Yarn Frame With Draft up to 700

The O-M sliver-to-yarn spinning frame, capable of drafts to 700, is available through E. S. Rudnick, 585 Allen St., New Bedford, Mass. The frame is manufactured by O-M Spinning Machine Mfg. Co. Ltd., Osaka, Japan. Sliver is made on a standard drawing frame but fed into special supply cans.

The spinning frame combines Casablancas roving and spinning apron systems: The back three-roll assembly is in a vertical position, and the front two-roll assembly (one roll is shared) is at an angle. Bakelite trumpets feed sliver to the rolls, and Bakelite collectors between each set of rolls feed the stock from the nip of one set directly into the nip of the next set. Positive traverses for the trumpets and collectors are supplied for some yarns. Because of the close control in drafting, a proportion of shorter fibers can be used.

The "roving" draft assembly gives drafts to 30 and the bottom assembly gives drafts to 20, but drafts to 700 have been run. Draft ratios for various draft numbers have been worked out. There are 198 possible front drafts and 16 possible back drafts; so minute changes in draft can be made.

A feature of the super-high-draft frame is the patented cradle. Each cradle, cadmium-plated to prevent tarnishing, is an independent unit; and the top cradle, with the three-roll assembly, clamps to the bottom cradle. When clamped into place, wire springs on each side apply predetermined pressure to the rolls. All top cradles are interchangeable; and complete new cradles, kept at the frame, can be snapped into place to

remove drafting assemblies for cleaning, etc., with almost no downtime. A spare set of cradles for each 20 frames is recommended.

On the top assembly, roll settings are determined by changeable bars that hold the back and front rolls; and the bars assure uniform settings. On the front assembly, setscrews control the settings.

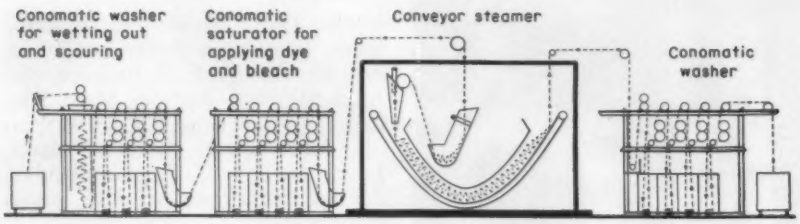
Other features: (1) a pneumatic clearer system is standard equipment; (2) the frame is only 22 ins. wide from spindle to spindle; (3) the lappet rail moves up and down to control ballooning; (4) doffing boxes ride on doffing rails; (5) gears and parts are precision tooled; and (6) pigtails are adjustable horizontally and vertically.

Drawing frames can be equipped with automatic turrets that hold four sliver cans, and hank clocks can control yardages so that the spinning frames can be creeled by a crew; and with a crew system, spinners can handle up to 25 200-spindle sides. The standard frame has 400 spindles.

A 5¾x24-in. can, which holds about 1½ lbs. of sliver, is used. On a three-shift basis, one can keeps a spindle going for a week on medium yarn and two weeks on fine yarn. An advantage of the cans is that lint doesn't accumulate, and overhead blowers aren't needed.

A sample frame with 36 spindles is at New Bedford Institute of Textiles for inspection and test runs on mill sliver. One side has 1⅝-in. rings for yarns finer than 50s, and the other side has 2-in. rings for coarser yarns. Both sides have a 3-in. gauge, and spindle speed is up to 12,300 rpm.

In test runs made on sliver from New England cotton mills, Mr. Rudnick reports that in almost every case, the break factors, evenness, and yarn appearance were equal or better than yarns spun from the same sliver on conventional equipment. Ends down were reported to be very low. **(T-1)**


Conomatic washer for wetting out and scouring
Conomatic saturator for applying dye and bleach
Conveyor steamer
Conomatic washer

## Continuous Bleaching Range

Proctor & Schwartz, Inc., Philadelphia, Pa., has completed installation of a new bleaching range at P.H. Hanes Knitting Co. in Winston-Salem, N. C.

A prescouring unit of four compartments precedes a four-compartment dyeing and peroxide-saturating unit. An optical bleach is applied in the first two boxes of the saturator, and peroxide is applied in the last two boxes. Squeeze rolls between all compartments of the scouring and bleaching units insure efficient results.

The water used in the scouring unit comes from the overflow from the final white washer; so consumption of steam and water is kept low. Excess optical bleach from the second compartment of the saturator is fed back to the first washer, where it is almost completely picked up by the cloth.

After saturation with peroxide, the goods are run into a steaming chamber. A small scray receives the goods and acts as a preheater and synchronizer. Goods are delivered from the scray to a cured conveyor that advances slowly: it requires 1¼ hrs. to reach the unloading point. Temperature in the steamer is maintained at 195° F.

After steaming, a four-compartment washer removes the bleaching solutions.

Tensions and squeeze-roll pressures have been kept at a minimum throughout the range. The squeeze rolls preceding and following the peroxide saturation are set for higher pressures.

Operating cycles and speeds are governed by cloth weight, and changes in speed are made to suit the cloth being run; but dyes and chemicals are left at fairly constant concentrations and feeds.

A d.c. range drive handles the first two washers and the preheating scray feed. The steamer conveyor has a variable-speed a.c. drive. The final washer is also equipped with an independent variable-speed a.c. drive so that if heavy goods are fed to the steamer slowly, lighter-weight goods can be delivered at a higher speed.

Capacity of the bleaching range is 30,000 lbs. per 24-hr. day at speeds up to 150 yds. per min. **(T-2)**

## Reversing Mechanism

Collins Bros. Machine Co., Pawtucket, R. I., has announced the development of a reversing mechanism for the top line of feed rolls on its novelty twister. The reversing mechanism changes are rotation of the top line of feed rolls. The scope of novelty yarns is increased by making it possible to produce new novelty yarns.

The reversing mechanism is appliable only to the Ultrohead attachment, which provides three speeds on both lines of feed rolls. So the Ultrohead, when equipped with the top-roll reversing mechanism, provides an additional top-roll speed. Four speeds can be obtained—three forward on each line of feed rolls, one reversing speed.

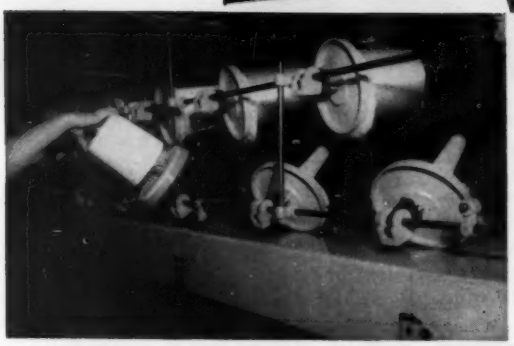
The mechanism produces a nubby effect that does not require a binder; the reversing feature securely anchors the nubby effect. Some types of novelty yarns, which now require two operations of twisting, can be produced in one operation with the reversing mechanism in conjunction with the Ultrohead. **(T-3)**

# FOSTER-MUSCHAMP

## MODEL 66 Automatic Filling Winder

*(Made in Westfield, Mass., U.S.A.)*

## Operating Cost 1/4¢ PER LB. OF YARN QUILLED



Magazine Creel. Cone Holder Swings Out for Donning and Doffing.

Empty Bobbin Ready to Move Into Winding Position. Close Delivery Thread Guide and Feelerless Build.

## Compare These Figures with Those for Any Competing Winder

When the magazine creel carries 4 lb. cones and when the machine is equipped with a central bobbin hopper replenisher and automatic pinboarding, or filling box stacker, the operating cost of the Model 66 is as low as ¼¢ per lb. of yarn quilled. Here is how we arrive at this figure on the basis of quilling 20,000 lbs. of 150 denier rayon in 40 hours.

| | *Time per Package* | *Time for 20,000 lbs* |
|---|---|---|
| Creeling in | .25 min. | 1250. min. |
| Piecing up broken ends (1½% breakage) | .11 min. | 550. min. |
| Supplying pinboards | .0488 min. | 244. min. |
| Other duties (5% tot. time) | .024 min. | 120. min. |
| Personal time (5% tot. time) | .024 min. | 120. min. |
| TOTAL TIME (1 operator 40 hrs.) | .4568 min. | 2284. min.* |

*Note there are 2400 minutes in 40 hours.

Standard hourly rate of 1 operator times 40 hrs. divided by 20,000 equals $.0025.

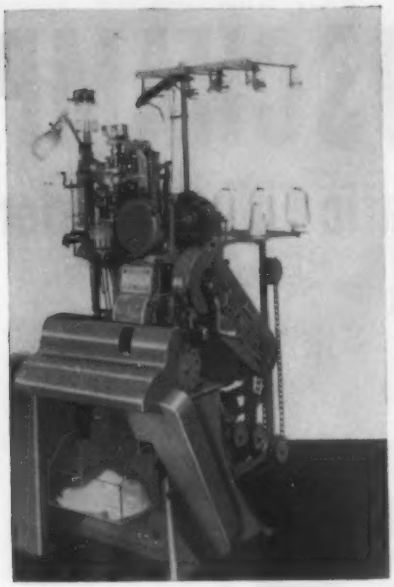
Exceptionally low operating cost is only one of 8 POINTS OF SUPERIORITY which Foster-Muschamp Model 66 offers. Learn about the other 7 points. Write for FOSTER FACTS — Volume 4 — Number 5.

## FOSTER MACHINE COMPANY

*A Winder for Every Textile Purpose*

**WESTFIELD, MASSACHUSETTS, U.S.A.**

**Southern office, Johnston Bldg., Charlotte, N. C.**



## Double-Feed Seamless-Hosiery Machine

A new hosiery machine, built by Hemphill Co., Pawtucket, R. I., is known as the Hemp-Lon Kleer-Stitch Model-H. L. machine. The machine has two feeds to knit a woman's stocking in 10 mins. The Hemphill system of knitting has been adapted to eliminate double-feed unevenness. The machine is also equipped with the Drawflex fabrics tension control.

The dual-section cylinder-wall inserts are replaceable. There are seven yarn levers and only two needle-butt lengths.

An automatic lubrication system is fitted. A slip-grip control handle allows fine adjustments, and a yarn-tension equalizer is self-adjusting. **(T-58)**

## Picker-Stock-Control Drive

A feed-control drive for Kitson and Saco-Lowell pickers developed by J. A. Quinn & Sons, Box 184, Greenville, S. C., operates directly from the top evener cone. With the Equalizer, the evener has control over picker stock at the back of the picker and the hopper as well as the evener roll.

When the evener pedals transmit speed changes to the cones, the change in speed is transmitted to the Equalizer; and the stock feed is changed according to the requirements of the evener roll. The evener cone has 14 ins. of different speeds, and the Equalizer picks up this same variability for the hopper and back of the picker.

Less variation in picker-lap weight results. **(T-4)**

## Fiber-Fineness Testing Instrument

The Speedar, made by Special Instruments Lab, Inc., 312 W. Vine Ave., P.O. Box 2018, Knoxville, Tenn., is a high-speed instrument to measure cotton-fiber fineness.

The instrument uses a low-pressure differential and measures a new property called modulus. A 5- to 10-gram sample is tested, and the instrument is sensitive to fiber orientation.

The instrument has two components: the weighing portion and the compression portion. The sample is weighed on the instrument, and the compression portion is adjusted to the weight of the sample. The sample is transferred to the compression portion, where it is measured.

The Speedar is rapid and simple to operate. Tests can be carried out without an air-conditioned room. **(T-5)**

## Boardless Dryer

Turbo Machine Co., Lansdale, Pa., has announced a new boardless dryer for manufacturers who want a substitute for final boarding. The dryer offers economies and also gives stockings a softer hand and a more pleasing finish than is usually achieved without boarding forms.

Drying is done in a six-drawer cabinet. Each drawer is loaded and unloaded in rotation, which makes the operation continuous. This arrangement allows for a comparatively long drying cycle per drawer with no time lost waiting for drying to be completed.

Comparatively low drying temperatures protect delicate fabrics.

Heated air is circulated gently through the drawers; there is no high-pressure air volume. Stockings remain smooth and unwrinkled, ready for pairing and boxing.

Production is up to 500 doz. pairs of stockings in 8 hrs. Machine capacity is 18 doz. pairs, 3 doz. in each of the six drawers. Steam required: approximately 15 psi.; 12 sq. ft. of floor space is required. Steam consumption is low. There are no appreciable heat losses. Unskilled labor can easily operate the unit. **(T-6)**

# FOR TOP QUALITY SHUTTLES...

## Look for these Trade Marks

TEMPERED

QUALITY

Stehedco

CONTROL

STEHIDE

### ANOTHER SOUTHERN EXCLUSIVE... *QUALITY CONTROL*

A few years ago the Southern Shuttles Division started a system of Statistical Quality Control. A new approach to an old problem, it is based on the premise that no two items can ever be exactly alike. This system sets up allowable tolerances. Quality is controlled through all the manufacturing processes rather than by inspection alone of the finished product.

Setting up this system for all incoming materials and manufacturing operations required establishing exacting specifications, permissible tolerances, retraining of inspectors and considerable statistical analysis.

After years of intensive work, this system is now functioning smoothly, and with pride and confidence Southern now identifies its products with the Quality Control symbol along with its well known Tempered and Stehide trade-marks. One more feature pioneered by Southern to give you greater value and dependability in shuttle performance.

**SOUTHERN . . . The Largest Single-Unit Shuttle Plant in The World**

# SOUTHERN SHUTTLES

**A DIVISION OF STEEL HEDDLE MFG. CO.**

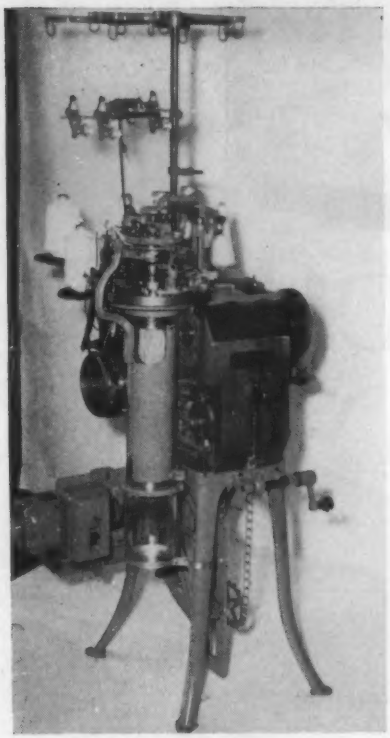
**PARIS, GREENVILLE, S. C.**

***It's Southern for Service and Delivery***

**Tempered Dogwood Shuttles • Durawold Picker Sticks • Supreme Reeds**

**Hard Chrome Electro Plating • Castings • Stampings**

1-R-2

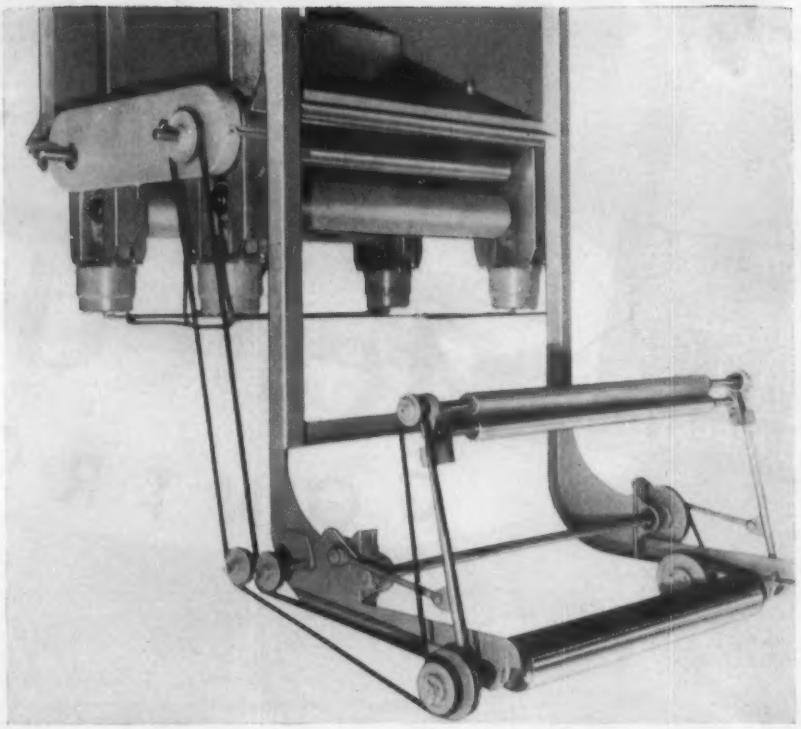


## Two-Feed Women's Hosiery Machine

The Carolina Model 2F-500 women's seamless-hosiery machine, made by Morris Speizman Co., Inc., 508-514 W. Fifth St., Charlotte 1, N. C., has two feeds and 500 needles in a 3¾-in. cylinder.

The two feeds are particularly suited to make stretch sheer hosiery by using Z-twist yarn on one feed and S-twist yarn on the other feed.

The machine is also available in 474- and 400-needle cylinders. **(T-7)**



## Dual Saturator

A double pad, Model M-8, operating as one unit for the application of finishes, wetting out, or other dyeing and finishing operations, has been developed by Wiesner-Rapp, Inc., Buffalo, N. Y.

Two pairs of 8x50-in. squeeze rolls are mounted over separate stainless-steel pad tanks supplied with immersion rolls. The top rolls are rubber covered, and the bottom rolls are of stainless steel. The rolls are mounted in adaptor-type bearings, which are mounted on stainless-steel stands.

Pressure to the top rolls is supplied through Bendix-Westinghouse Rotochambers that have no stuffing glands and do not leak. Release of air pressure raises the top roll out of contact with the bottom roll.

The larger pad tank has a combination plug and overflow drain so that draining or a constant liquor level can be maintained.

A roll-type folder is supplied at the delivery end of the saturator. The folder has a maximum swing of 48 ins. Expanders, drive, and other features can be included to meet customer's requirements. **(T-8)**

## Pneumafil Spinning Creel

Pneumafil installations with a built-in creel are available from Pneumafil Corp., Charlotte, N. C. This equipment is being installed on over 900 frames in five Southern mills. It combines the advantages of the Pneumafil system with an air-foil-design lint-free creel.

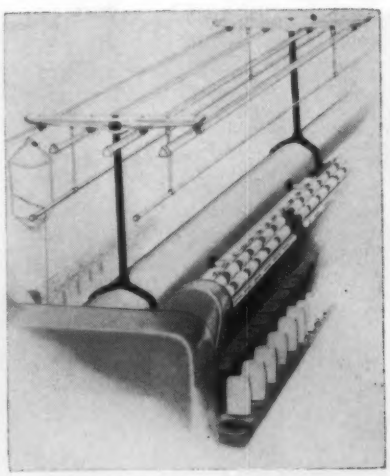
Made of smooth-finished aluminum and steel, the creel eliminates slubs formerly caused by lint accumulations. Use of the creel also reduces hand cleaning, and it is completely flexible in application.

Based on the findings of aeronautical engineers, the air-foil principle allows air, unobstructed by flat boards, to pass around every creel part and clean all surfaces with a minimum of resistance. A Pneumafil header duct directs the air stream by the drafting system and through open wire supports.

Parallel spans enclose the bobbin-holder bolts and allow the bobbin tapers to be constantly cleaned.

No wiping of creel or green boards, no picking of bobbin tapers, and no wiping of Pneumafil header ducts are necessary.

The creel can be easily moved from one frame to a frame of another gauge; it is easily changed from single to double roving or vice-versa; and it can be easily changed from small to large packages. **(T-9)**



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# RHOZYME LA*

RHOZYME LA is the most dependable desizing enzyme now available to the textile industry.

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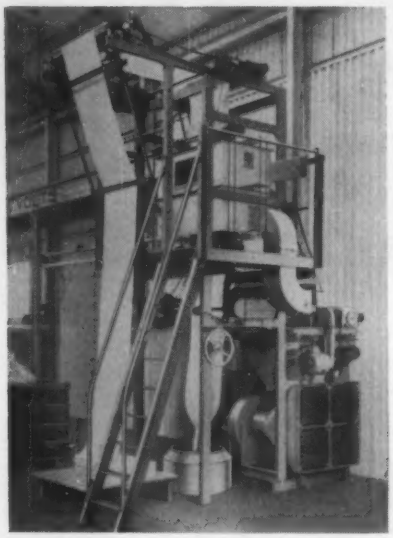


## Knitted-Fabric Drying Machine

The Pegg Pasold Process machine, built by Samuel Pegg & Son Ltd., Barkby Road, Leicester, England, dries knitted tubular fabric and sets it in a relaxed state. The fabric finishes at the width it comes from the knitting machine.

The machine automatically untwists the fabric and passes it to the drying chamber with the wales straight and vertical.

The drying process is continuous. Hot air passes through the fabric twice in order to give a greater heat efficiency.

Width adjustment is made by turning a handwheel while the dryer is in motion.

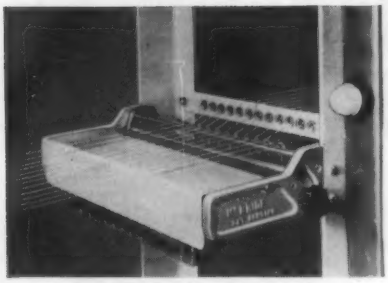
One man can operate three of the Pegg-Pasold machines.

A rubber-disk roller assembly slightly overfeeds the fabric upwards to the machine. A hot-air stream is directed downward to untwist the fabric.

The air stream shapes the over-fed fabric into a bubble so that the fabric is carried to the drying chamber in a relaxed state.

A fan in the hot-air chamber sends air through the fabric to help form the bubble.

The remainder of the hot air travels upward through the fabric and helps to lift the dry material to the conveyor belt. The dry fabric then passes to a truck or a folding platform. **(T-10)**

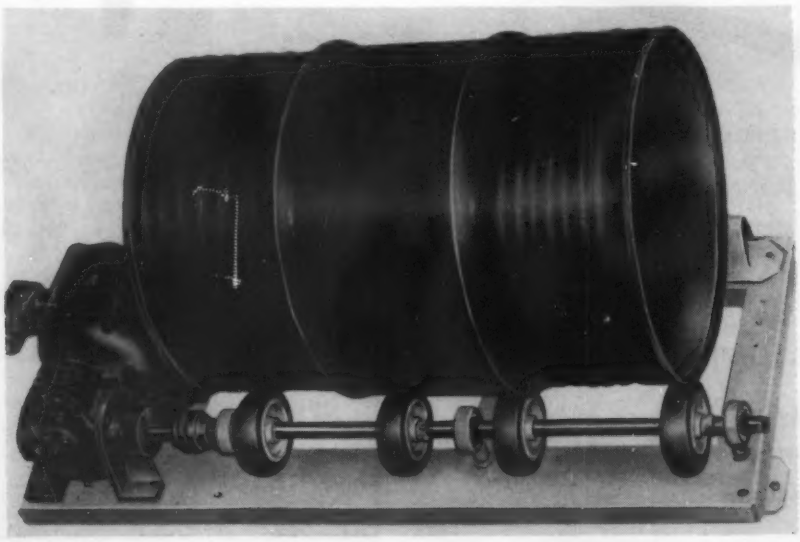


## Controls for Warping

A three-way signal light attached to a light channel on McBride magazine creels permits improved warping. Announced by Edward J. McBride Co., Inc., Cottman Ave., Philadelphia 35, Pa., the light is out when the creel is operating normally; it goes on instantly when an end breaks in order to spot the location for the operator; and it flashes when the locking bar is in the drawing-in position to remind the operator to drop the bar before warping begins.

Signal lights are available in four combinations: (1) facing back toward the creeler; (2) facing forward toward the warper; (3) on the outside of the light channel visible both forward and back; and (4) with two lights, one facing forward and the other back. The last combination is the most satisfactory because the lights are visible both ways but are not vulnerable to traffic in the aisles. The lights are rigidly mounted in a steel channel, which is hinged for access to the wiring.

Another attachment, Instant Stop, makes possible instant cast-out of individual ends. Individual switches control each drop wire, and a master switch on each bank of stop motions permits the cast-out of the entire bank. **(T-11)**



## Floor-Model Rotator

The Morse Mfg. Co., E. Syracuse, N. Y., has added to its present line a drum rotator that has a total capacity of 1,000 lbs. of drum weight.

Designed for agitating and mixing materials in the original container, the model has its own power unit and has idler wheels that can be adjusted to fit various sizes of drums.

Drive is through 6-in. neoprene-faced wheels that is driven by a ½-hp. motor with a right-angle geared head. The motor is mounted on the base.

The rotator is supplied with mounting lugs and can be furnished to rotate drums at any speed from 10 to 30 rpm. Space requirements are 24x60 ins. **(T-12)**

# name an upholstery fabric that isn't "CRITICAL"

**From any point of view—when you're making upholstery fabrics you can't gamble on quality.**

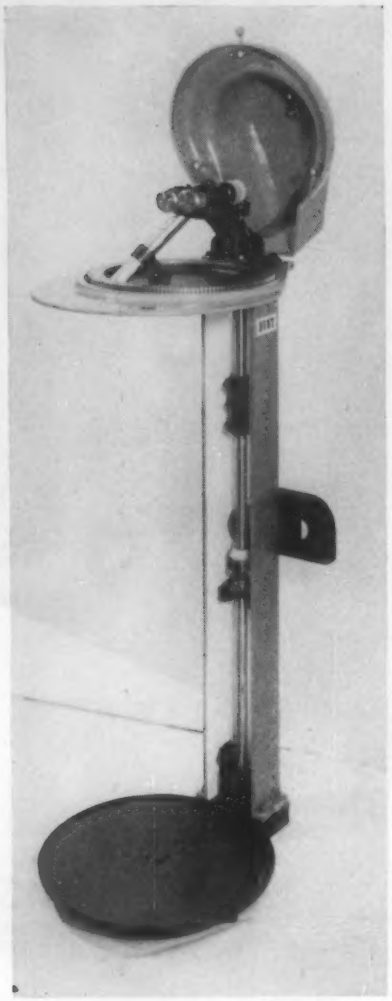
**It's been the experience of most mills working with "critical" fabrics that by specifying Continuous Process Rayon they will cut down "seconds" due to uneven dyeing, fluffs, knots.**

**With today's emphasis on textured fabrics where the quality of the yarn is obvious, we think it would be difficult to find an upholstery construction that couldn't be considered "critical"...or that doesn't need the protection against "seconds" that Continuous Process Rayon can deliver.**

I·R·C

**Industrial Rayon Corporation**

Cleveland, O. *Sales Office:* 500 Fifth Ave., N.Y. 36



## Card Coilers

Large card coilers, 15x42- and 18x 42-in. models, are available from Hunt Loom & Machine Works, 200 Academy St., Greenville, S. C. A change from 12x36-in. coilers to 15x42-in. change-overs increases sliver in the can by 100%, and a change to 18x42-in. coilers results in an increase of 400%.

The Deluxe model has a baked-enamel finish, antifriction bearing, sealed lubrication, and metal-to-nylon or Celeron gearing. The tube-gear bearing is made of nylon.

An adjustable stop for the calender roll is an optional feature. **(T-13)**

## Coiler Change-Over For Drawing

A 15x42-in. coiler change-over for six-, five-, and four-delivery drawing frames is available from Hunt Loom & Machine Works, 200 Academy St., Greenville, S. C. Advantages are longer runs between doffs and reduced direct-labor costs.

The coiler uses an overcenter lay, in which the coiler diameter is greater than the radius of the can. The larger lay produces a more-uniform pattern in the bottom of the can and eliminates the tangling of sliver. It prevents a hard core of sliver at the top of the can; and pyramiding, which results in premature doffing, is avoided. **(T-14)**

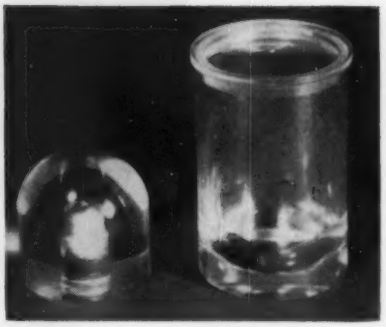
## Extractor Loader and Unloader

The Utica Novelty & Mill Supply Co., Utica 2, N. Y., has developed a combination extractor and loading or unloading device that can be permanently mounted or supplied with a pedestal mount for mobility.

Features are an integral drive running in oil, sealed ball bearings, and an adjustable pot eye.

The head swings 360° and is mounted on ball bearings. It can be locked in any position.

Suggested uses are for loading or unloading trucks, kiers, or tanks and for transferring goods in the rope from floor to floor. **(T-15)**

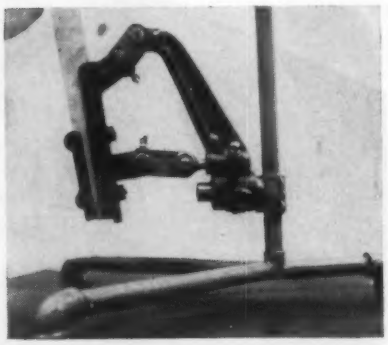


## Industrial Pycnometer

A plastic pycnometer machined from Plexiglas permits measurement of the specific gravity of materials that would corrode metal instruments. Designed with a wide mouth for easy filling, it is also provided with a plastic tare weight that nests in the bottom of the cup when not in use.

To determine the specific gravity of a liquid, the pycnometer is filled to just over a fill-line engraved inside the lip. The fitted cover, placed on top, squeezes out excess material through a hole in the center. After the excess is removed, the cup is placed on the balance. The weight of the cup itself is counterbalanced by the tare weight. The contents are weighed to the nearest 0.1 gram; and the weight in grams, divided by 10, gives the weight per gallon in pounds. The weight per gallon in pounds multipled by 0.012 gives the specific gravity.

The instrument is made by Gardner Laboratory, Bethesda, Md. **(T-16)**



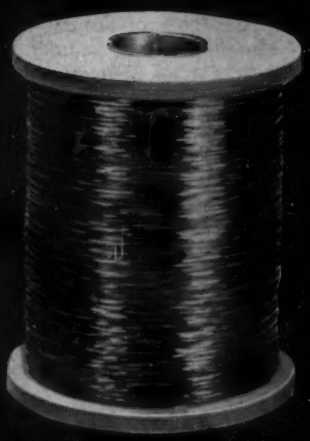
## Parallel Motion

A linkage parallel has been developed by Hunt Loom & Machine Works, 200 Academy St., Greenville, S. C. The parallel controls the path of the picker. Features are sealed lubrication and a hardened pin and sleeve bearing, which is replaceable. Settings are retained, and loom speeds can be increased depending on the cloth woven. Less power is required for the clock-type spring. **(T-59)**

*Two important names in the Textile Industry . . .*

# BRANSON and LASSITER . . .

*unite to bring you*



## NEW, GLITTERING

# FAIRTEX®

**Metallic Yarns**
**Supported Metallic Yarns**
**Mylar® Metallic Yarns**

Whether you weave, knit or crochet . . . whether you work in cotton, wool, silk, linen or the synthetics . . . give your fabrics greater eye-appeal and buy-appeal with new, glittering FAIRTEX Yarns.

These new FAIRTEX Yarns are backed by many years of experience and fifteen months of research and development. To Branson Company's comprehensive knowledge of weaving and knitting has been added Lassiter Corporation's notable proficiency in the plastics field.

FAIRTEX Metallics are non-tarnishing, highly color-fast and heat-resistant . . . they may be fabricated with ease on practically any type of machine.

FAIRTEX Metallic, Supported Metallic and the new Mylar® Metallic Yarns are available now in a wide range of sparkling colors to meet the designers' every requirement.

*®Registered Trademark for Dupont's Polyester Film.*

# FAIRTEX® YARNS

**METALLIC • SUPPORTED METALLIC • MYLAR® METALLIC**

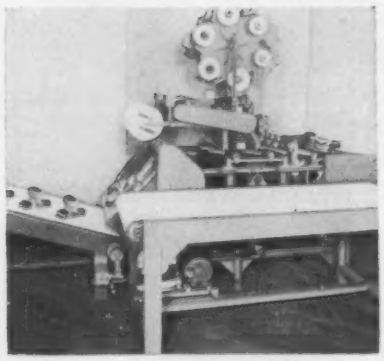
**Fairtex Corporation • Charlotte, N. C.**

| CHICAGO | CHARLOTTE | NEW YORK |
|---|---|---|
| Napier & Harshman | Lanier Branson, Jr. and J. E. MacDougall, Jr. | Robert Napier |
| 3555 Peterson Ave. | 1808 Liberty Life Bldg. | 51 E. 42nd St. |

## Bag Packager

The Deluxe Model 91R bag packager is available from Errich International Corp., 5 E. 35th St., New York, N. Y. A self-contained unit, the special model features two large storage compartments for bags and a drawer for change-over tools.

Suited for products such as shirts, sweaters, scuffs, knit goods, carded items, etc., it is particularly adapted to speed loading into bags ranging from 8½ to 10½ ins. wide. High production is with polyethylene, cellophane, cello-combination, Pliofilm, and kraft bags. (T-17)



## Transfer Machine

The Model 200 Bowman automatic transfer-applying machine, manufactured by Textile Trimming & Boarding Machine Co., Reading, Pa., is available from Southern Mill Equipment Corp., Charlotte, N. C.

New features of the machine: a conveyor table for feeding the goods through the machine and a number of technical improvements in the registering of the transfers.

The table has an intermittent action that feeds the goods as desired to the operator and places them on the transfer-applying conveyor. (T-18)

## Packaging Machine

Air-regulated control is a new feature of the portable Tele-Sonic bagging machines, made by Telesonic Packaging Corp., 1170 Broadway, New York, N. Y. The air-control regulator overcomes problems in having different size bags blown open at improper positions.

New loading and receiving platforms have been added to the equipment. One operator is required. The company offers an engineering program to build special parts for specific applications. (T-19)

## Combination Washer-Extractor

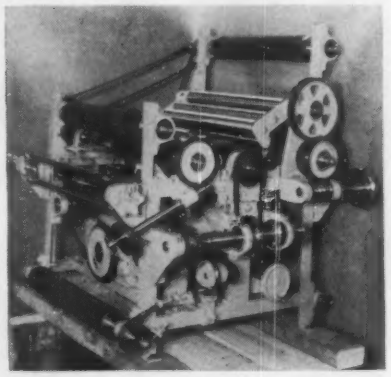
The Unit Wash Corp., Plainville, Conn., has improved its Unitwash combination washer-extractor to make it especially adapted to washing knit goods. Washing speeds can be adjusted to suit any type of goods, and temperatures can be regulated to meet requirements of any fiber. Fully automatic models cycle water and supplies and regulate washing, rinsing, and extracting time so that a minimum of labor is required.

Because the washing and extracting are done in one unit, less floor space and labor are required than with separate washers and extractors. Models from 30- to 200-lb. capacities are available. (T-20)

## Table-Model Instron Tester

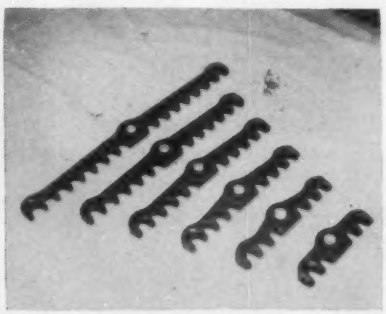
A table model of the Instron universal testing instrument has been announced by Instron Engineering Corp., 440 Hancock St., Quincy, Mass. This compact, sensitive instrument records stress-strain curves under tension or compression. The moderate price makes it adaptable for quality and production control as well as for research requirements in textiles.

Full-scale-load ranges from two grams to 200 lbs. are available through a choice of three load cells. With inertialess weighing, the response to load fluctuations in the sample is rapid; with no mechanical friction, a high degree of accuracy is obtained. The high-speed recorder is equipped with a choice of synchronous chart speeds. (T-21)



## Laboratory Coating Machine

A laboratory-size Universal roller coating machine available from Mawaco Machine Co., 56 Bogart St., Brooklyn 6, N. Y., is almost in detail a scale model of a Mawaco standard coating machine. So it will duplicate mill conditions for experimenting with small pieces of fabric and small batches of compounds. (T-22)



## Sliver Guides

Sliver guides made from highly polished aluminum are available from Hunt Loom & Machine Works, 200 Academy St., Greenville, S. C. To decrease friction, the guides have a special Teflon finish.

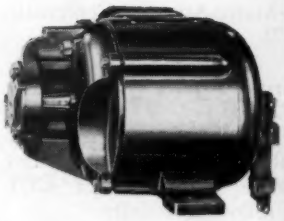
The guides prevent stretching of the sliver, which is picked up vertically from the top of the can instead of being dragged horizontally. (T-23)

CONTINUED ON PAGE 232

number
seven
of
a
series
depicting

# MOTORS

## MORE AND BETTER TEXTILE PRODUCTION WITH HYATTS



(Above.) Diehl Power Transmitter Loom Motor with two Hyatt Roller Bearings to facilitate lateral movement of drive shaft when clutch is engaged or disengaged.

(Above, right.) A typical group of Diehl "DIT" Lint-free Motors, with Hyatts at the shaft extensions, operating spinning frames at the Greenwood Mills, Greenwood, S. C.

**Supplying power to textile machinery is a punishing job, often involving long hours of uninterrupted service under adverse conditions. *Gear tooth pressure*, as in loom drives, or *belt pull*, as in spinning frame or twister frame drives, puts unusually heavy loads on motor shaft extensions.**

**That's why leading makers of textile motors standardize on rugged Hyatt Roller Bearings on the shaft extension end, where radial loads are too heavy for ball bearings. Hyatts assure long life, dependability and freedom from costly down-time—more reasons why you're always sure of *more and better textile production with Hyatts!* For further details on the profitable application of Hyatt Roller Bearings to textile machinery, request Bulletin T-54 from Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.**

# HYATT ROLLER BEARINGS

STRAIGHT BARREL TAPER



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Textile World

# NEW DYES and CHEMICALS

### Diazonium Salt

**National Black K Salt** . . . produces jet-black shades on cotton and viscose with National Naphthols AS-BG, AS-BS, and AS-SW. Applicable by continuous processes, pressure machines, printing, or open tubs; the shades produced show excellent fastness to light, washing, hot pressing, and other wet processing. Suggested for sport and work clothes and materials to be rubberized. National Aniline Div., Allied Chemical & Dye Corp., New York 6, N. Y. (D-1)

### Vinyl Acetate Copolymer

**Permaloid 170** . . . an alkali- and solvent-soluble product in clear bead form that gives clear solutions useful for coatings or films. Can be used in place of starches, glue, or casein in textile sizing and finishing and acts as a protective colloid for rubber latices. Colloids, Inc., Newark 5, N. J. (D-2)

### Synthetic Detergent

**Synterge 750** . . . available in 100%, 33⅓%, and 25% concentrations for scouring and bleaching cotton and wool in piece goods or yarn form, for washing prints, and for leveling dyes. Has emulsifying and wetting-out properties and is stable to acid, alkalis, and hard water. Can be used as a dispersing agent for dyes. Colloids, Inc., Newark 5, N. J. (D-3)

### Thickening Agent

**Acrysol G-110** . . . an ammonium polyacrylate solution designed for use as a thickener with latex emulsions such as butadiene-styrene, unplasticized styrene, vinyl chloride, and vinyl acetate. Latices thickened with Acrysol G-110 store well, and viscosity remains constant. Supplied in a 22% solids concentration, it is recommended for thickening latices to be used for cast or molded goods, adhesives, rug-backing formulas, and spraying mixtures. Rohm & Haas Co., Resinous Products Div., Philadelphia 5, Pa. (D-4)

### Chrome Dye

**National Alizarol Verdon S** . . . produces subdued bluish-green shades on wool by top-, meta-, and bottom-chrome dyeing methods. Particularly suitable for raw-stock and slub dyeing; fast to light in medium and heavy shades; fast to cross-dyeing, fulling, crabbing, and carbonizing. National Aniline Div., Allied Chemical & Dye Corp., New York 6, N. Y. (D-5)

### Water Repellents

**Ranedare C** . . . gives water-repellent finishes on cotton that are extremely durable to dry-cleaning and laundering. Easily diluted with cold water; runs with low foam. (D-6)

**Ranedare S** . . . a silicone-type water repellent particularly suited to synthetics; also applicable to cotton and wool. Gives a soft finish durable to dry-cleaning and laundering. Ranefix Catalyst supplied with the water repellent is easily dilutable in the finishing bath. Metro-Atlantic, Centerdale, R. I. (D-7)

### Sequestering Agent

**Kalex CUL** . . . shows powerful ferric iron chelating power and is effective with alkaline earths. Kalex CUL shows the following activity:

Grams of ion sequestered per gram of sequestrant (100% solids basis)

| Metal ion | Kalex CUL |
|---|---|
| Nickel | 0.23 |
| Cobalt | 0.26 |
| Zinc | 0.28 |
| Copper | 0.25 |
| Ferric iron pH-5 | 0.38 |
| Ferric iron pH-7 | 0.38 |
| Ferric iron pH-9 | 0.41 |
| Ferric iron pH-11 | 0.45 |
| Calcium | 0.082 |

Hart Products Corp., New York 18, N. Y. (D-8)

### Water Repellents

**Cravenette Super Silicone Water Repellent** . . . does not require addition of a catalyst or excessive curing temperatures. Drying at 200 to 240° F. completes the operation and produces fabrics that are resistant to non-oily stains and spots. Cravenette Co., U. S. A., Hoboken, N. J. (D-9)

## How To Get GOOD WHITES on 100% ACRILAN

To get satisfactory whites on 100%-Acrilan fabrics, Chemstrand Corp., New York, N. Y., announces, the goods are first prescoured in a bath containing 0.25 grams per liter of a nonionic detergent and 0.25 grams per liter of TSPP for 20 mins. at 160° F.; and the bath is dropped. The goods are then pretreated in four grams per liter of sulfuric acid at 200 to 205° F. for 25 mins. The fabric is cooled down and the bath dropped, but rinsing is not necessary.

The fabric is bleached in a bath containing one gram per liter of Textone and 0.5 grams per liter of sulfuric acid at a temperature of 160° F. After bleaching for 10 mins., an addition of 0.25 grams per liter of Textone is made and the bleaching continued for an additional 20 mins.

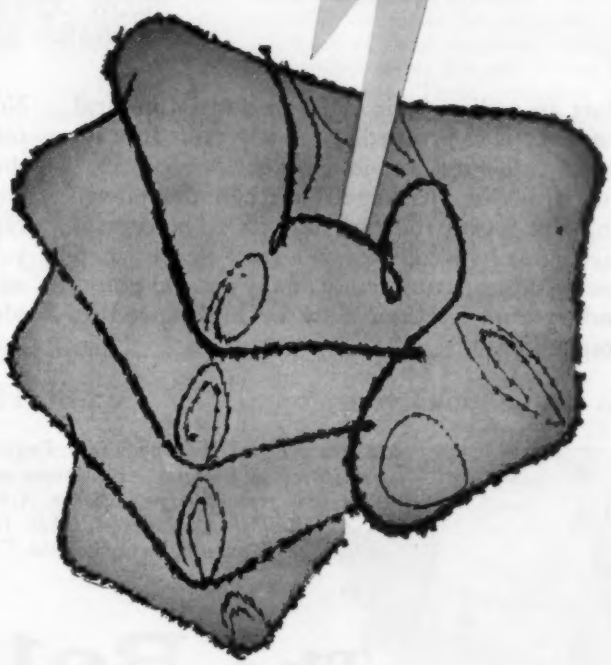
The bath is then dropped and the fabric well rinsed. The goods are antichlored in one gram per liter of sodium bisulfite at 140° F. for 20 mins. and rinsed.

The white may be improved by running the fabric for 20 mins. at 140° F. in a bath containing 0.075% of Arctic White N (Hilton-Davis Chemical Co.) and suffi-

CONTINUED ON PAGE 248

# STOP STATIC PROBLEMS

## with TWITCHELL 7421 OIL



**controls static on modern blends and high-speed machinery!**

Improve your quality and increase production yet hold down costs with this superior fiber lubricant.

You'll find that Twitchell 7421 Oil will control static build-up regardless of machinery or fibers used...yet this modern fiber lubricant is in the medium price range and possesses all other requisites of a modern fiber lubricant.

Since actual performance tells our story better than words, we urge you to try Twitchell 7421 in your plant...to see for yourself why it is the best value available.

excellent lubricity · high emulsion-stability · fluid emulsions

non-yellowing

rust inhibiting · easily scoured

If you would like a complete evaluation of Twitchell 7421 Oil as compared to eight leading medium priced wool and worsted oils, write to Dept. W-6 for brochure titled, "TWITCHELL 7421 OIL."

Emery

**Fatty Acids & Derivatives**
**Plastolein Plasticizers**
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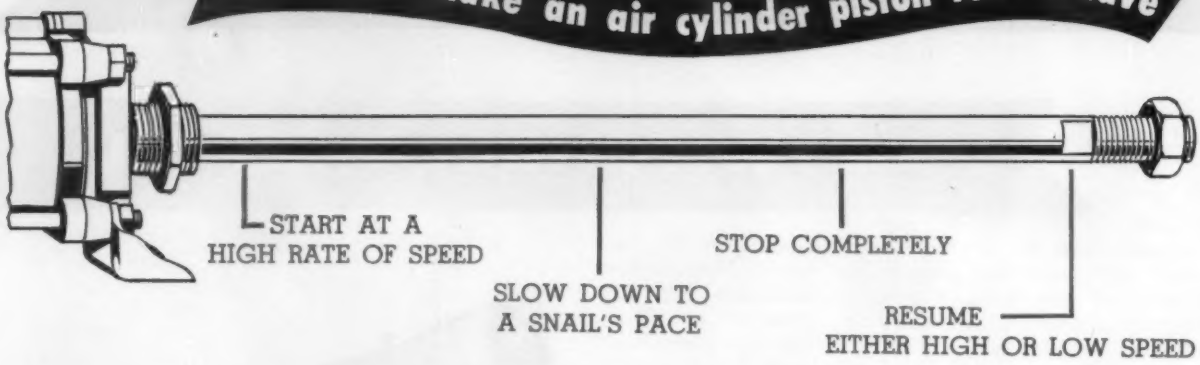
# *Skip* CHECK — *Stop* CHECK

## or how to make an air cylinder piston rod behave




Start an ordinary air cylinder and its natural tendency is to proceed at a fairly uniform rate to the full length of its stroke.

But with this "packaged" air cylinder power unit the piston rod can start its advance at a high rate of speed, slow to a snail's pace when you wish, stop completely at any desired point, and resume either a slow or high speed as you prefer.

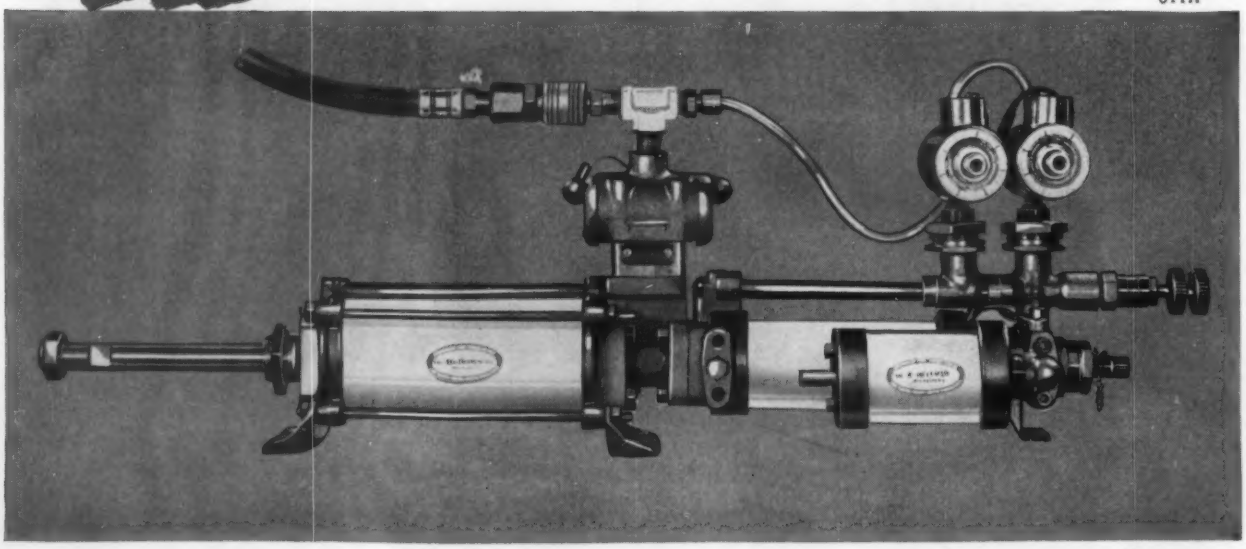
Not all pneumatic applications require the range of piston rod speed control available in this model DCSTSBEM combination Bellows Air Motor and Hydro-Check, of course. But, regardless of the type of control you require, you can obtain it in Bellows Air Motors . . . and usually in the form of one compact, complete, "packaged" unit — simple to install, doubly simple to control.

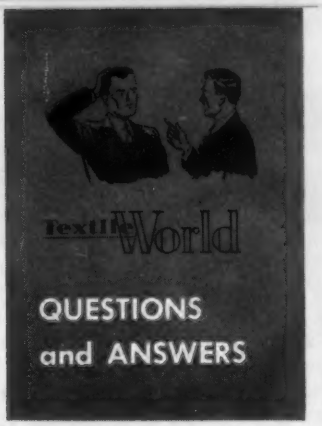
*Ask your Local Bellows Field Engineer to show you the range of control possibilities in Bellows Air Motors and Hydro-Checks — or write for a copy of our new free 36-page bulletin. Ask for Bulletin CL-50. Address Dept. TW-6[illegible]5, The Bellows Co., Akron, Ohio. In Canada, Bellows Pneumatic Devices of Canada, Ltd., Toronto. In California, The Bellows Co. of California, Los Angeles.*

# The Bellows Co.

**AKRON 9, OHIO**

811A






▶**TEXTILE WORLD'S editors are at your service to help solve your problems in yarn manufacture, weaving, knitting, dyeing, finishing, or other textile operations. If you have a technical problem bothering you, send it along to the Editor, Questions and Answers, TEXTILE WORLD, 201 E. Coffee St., Greenville, S. C.**

## How To Reduce Dust From Tinged Cotton

**Technical Editor:**

**We are bothered with dust from tinged cotton. Our card room is not closed in, and when we strip our cards the dust goes through the plant. We use oil to spray the cotton when we make our card laps on a two-process picker. There is also excessive dust when our cards are stripped. Do you have any suggestions other than closing in the card room? (9882)**

Much of this dust is due to the condition and speeds of beaters, speeds of fan, distribution of drafts, and the condition of air flues.

Increased speed of pin aprons with closer setting on the combing roll in opener feeders may increase dust removal. Check on the exhaust fan in the opener feeder hopper to make sure that freed dust is removed. Check on the amount of oil sprayed on the cotton. Mills have found that an oil increase up to 0.2% reduces dust in the card room.

If this dust is present when the card is in regular operation, check on the distance between adjacent flats. Stretched flat chains will increase the spaces between flats and permit dust to filter into the room.

Avoid excessive production on low-grade cotton. We suggest carding about 10 lbs. per hr. If cylinders and doffers load up badly on present stripping schedules, increase the number of strippings per shift. If no vacuum-stripping device is used, you might give this stripping method some consideration.

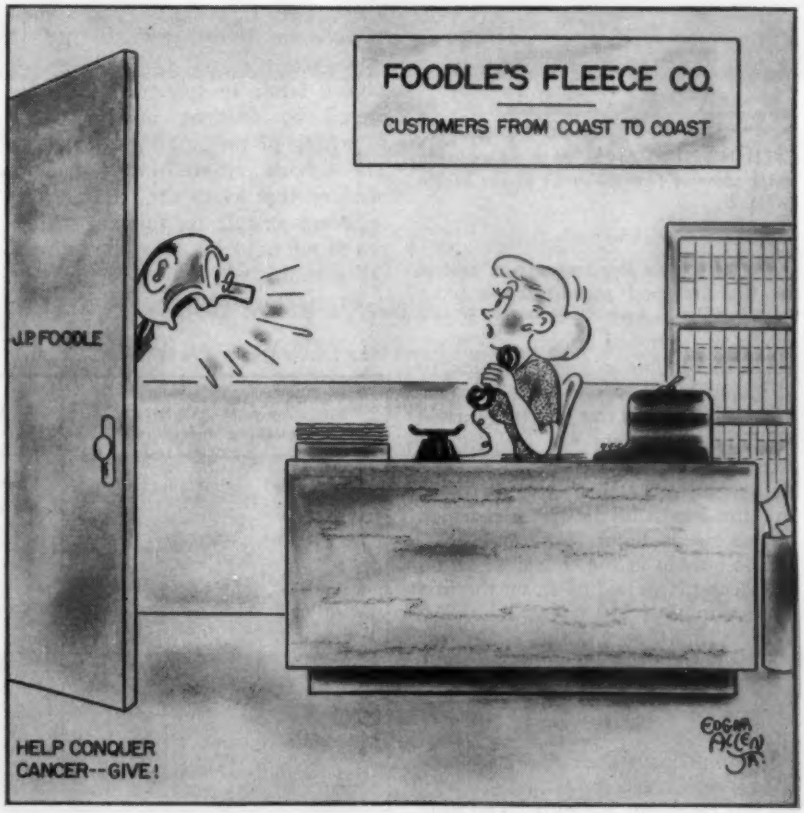
The only real solution, however, so long as you use a grade of cotton containing excessive dust, involves two things: (a) sufficient cleaning to remove the dust and (b) control of the dust-laden air.

You should study your line of cleaning machines and determine whether or not it is adequate to clean your cotton mix. You will probably find that, although your setup is adequate for normal cotton, a longer cleaning line is necessary for the dusty cotton. If more cleaning equipment is used, it may be desirable to reduce beater speeds to lessen damage to the fiber.

Adequate removal of the dust-laden air in the cleaning machines will considerably increase the dust-removal efficiency of these machines. Return-air condensers are the best means for doing this job. These condensers are air-suction arrangements that take the air, dust, and fly from the machines, filter out the dust and fly, and return the air to the room.

Closing in the card room is no solution. After all, people have to work around the cards; and if you turn your card room into a dust room, you'll have trouble holding workers on those

## TEXTILE TICKLES . . . . . *By Edgar Allen, Jr.*




*"Stop telling people we fleece everybody!"*

jobs. Then, too, you will be creating a lot of extra work in moving material from the cards to the rest of the room.

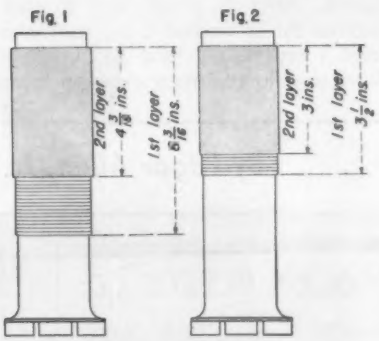
Although equipping your opening room to solve your dust problem may be expensive, you will save money at the cards by reducing dust. As you know, dust is abrasive. It is almost certain that you are now paying heavily in card wear, particularly in lickerins, cylinder clothing, and flats and flats chains. Reducing this wear by better cleaning of your cotton will help offset the expense of the cleaning equipment.

## How To Set Creeling Standards

**Technical Editor:**

**We are trying to reduce waste in our spinning department. How can we set a standard for the time a bobbin should be creeled? (9887)**

To set a standard for creeling bobbins, study the accompanying pictures and follow this method.




**CREELING POINT can be set to reduce waste in the spinning room as shown on the bobbin in Fig. 2.**

Fig. 1 shows the amount of roving on the first and second layers on a bobbin taken out to be creeled. Fig. 2 shows an improved bobbin.

On the bobbin in Fig. 1, the length of roving on the first layer is 6 3/16 ins., which shows that the doff was started too low. There are 4 3/16 ins. on the second layer. The doff should be started with the first layer at about half the length of the traverse, which in this case is about 3½ ins.

The bobbin in Fig. 1 had 43 ft. on the second layer and 67 ft. on the first layer, a total of 110 ft., or 1,320 ins. With a draft of 15, the inches delivered at the front roll is 19,800. The front-roll speed is 128 rpm., or 402 ins. per min. This roving would run in the creel:

$$19{,}800 \div 402 = 49 \text{ mins.}$$

This calculation shows that the bobbin was taken out too early. The time between normal spinning cycles is not as long as the bobbin would last in the creel.

The improved bobbin in Fig. 2 shows that the first layer should be about 3½ ins. long and the second about 3 ins. This bobbin will last 30 mins., which is long enough for spinning cycles. The proposed bobbin should not be removed until the last layer is showing.

## Prevent Pulled Ends With a Leno Motion

**Technical Editor:**

**How can I bind a loose woven wool fabric to stop the ends from pulling out? (9668)**

Weave the fabric on a loom equipped with a leno harness motion. The warp ends are given a half turn around each other with the filling locked between each end. These weaves are often used in weaving gauze, curtain materials, and other fabrics where it is necessary to lock the warp ends in place.

Leno motions are also used to form a cutting line in double- or multiple-width fabrics. A needle device, which is fastened to the loom arch, is supplied by loom builders to provide dividing or cutting lines. The device locks the warp ends so that the fabric may be cut in the loom with the ends bound in place.

## Antiseptics Are Used On Cotton Yarns

**Technical Editor:**

**Are antiseptics or soluble fungicides ever used to combat mold or rotting in cotton yarns? (9871)**

Antiseptic agents are used in the size mix for warp yarn. The solution used for conditioning filling yarn before weaving also contains an antiseptic agent.

## Test Felt for Shrinkage After Fulling

**Technical Editor:**

**Our customers request that our light-colored felts be preshrunk. Can we fix our felts to a predetermined width? (9884)**

An axiom in the wool business says that a 100% felt or wool fabric that has been fulled will, if stretched, return to its fulled dimensions when sponged.

Shrinkage of felt or other fulled woolen fabric in sponging is usually caused by tensions introduced by stretching in the finishing operation. This tension can even happen on the machine that winds the fabric or felt on boards or rolls for shipping. A desire to roll tightly is often the cause of the tension.

Drying, carbonizing, pressing, opening, scutching, decating, and vacuum or squeeze-roll extraction can all stretch felts and fabrics. Preventive measures can be taken to reduce this stretch.

To determine the operations that stretch a felt or fabric, measure the width accurately immediately after fulling or felting. Stitch a yard mark on the edge of each piece; the yard marks are two stitches of colored yarn exactly one yard or one meter apart. Indelible pencil marks may be used instead of stitches.

Both measurements are checked carefully after each finishing operation and after rolling for shipment. This test will determine the operations that have shrunk the fabric, and you can make your adjustments accordingly.

| Finishing operation | Direction of Stretch | Preventive measures |
|---|---|---|
| Drying and carbonizing | Warpwise and fillingwise | Do not stretch, and dry to fulled width |
| Pressing | Warpwise | Reduce drag on apron and feeders |
| Mantling<br>Decating<br>Opening<br>Scutching<br>Vacuum extracting<br>Squeeze-roll extracting | Warpwise | Eliminate all scutcher bars and tension devices. Feed material as slack as possible |

**FELT SHRINKAGE occurs in these operations. Shrinkage can be determined with a yard mark.**

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NALEX WARP SIZE

# lowers humidity to 70%

FOR SPUN RAYON, COTTON AND WORSTED YARNS

**NALEX** assures excellent weaving efficiency at relative humidities as low as 70%. Often even lower.

**NALEX** cooks quickly. A minimum of size compound is needed. Film forming properties are excellent.

**NALEX** penetrates readily, which is necessary for combed yarns and high sley constructions.

**NALEX** minimizes "seconds" by eliminating "hard size, warp clinging, fuzz balls," etc. High quality fabrics can be produced week after week.

LOW HUMIDITY means better working conditions, lower maintenance costs, and a cleaner weave room.

STARCHES **National** STARCH PRODUCTS INC. RESYNS®

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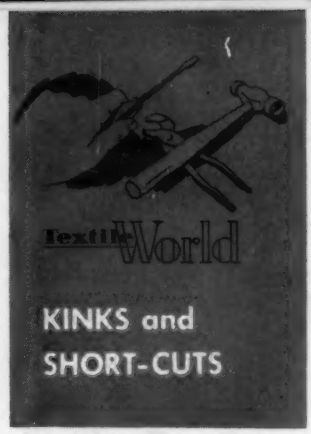
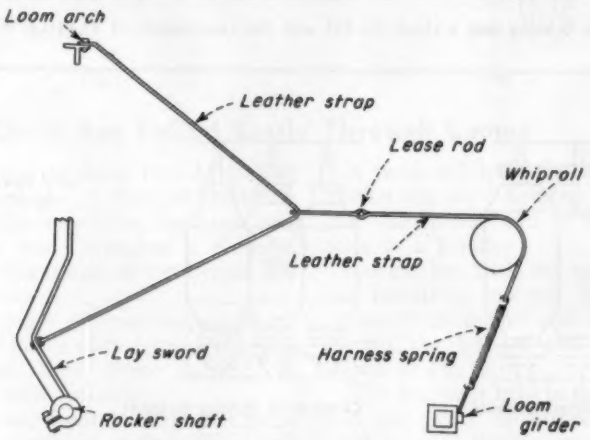
In Canada: National Adhesives (Canada) Ltd., Montreal




## Moving Lease Rod Stops Warp Draw-Backs

When warps at the loom become sticky or are otherwise sized improperly so that they have a tendency to make draw-backs, lease rods that move will break up the draw-backs.

Lease the warp between the warp stop motion and the whiproll, and insert a rod through the lease. Slip one end of the rod through a slot cut in a leather strap and extend the strap over the whiproll. Let the strap hang down a few inches. Bolt a harness spring from a dobby loom to the back loom girder, and hook the other end of the spring in a hole punched in the end of the leather strap extending below the whiproll.

Place a strap and spring on the other end of the rod the same way.

Bolt a long strip of leather to the loom arch and fasten it to the front end of one of the strips of leather holding the lease rod. Then, attach the long strip to the lay sword 12 ins. or less above the rocker shaft. Place a similar strap on the other side of the loom.

All strips of leather are 1 in. or more away from the outside selvage edges.

When the lay moves forward, the lease rod should move ½ in. To adjust the movement, raise or lower the leather strap at the lay sword. The spring returns the lease rod to an inactive position after each pick of the loom. The gentle movement of the lease rod breaks up all stuck ends but does not mark or harm the woven fabric.

With this method, we weave cloth with few seconds from tangled and stuck warps that could not be woven without the attachment. *Charles S. Bicksler, Lancaster, Pa.*

## Save Time When You Knit Patterned Fabrics

To get the correct effect on certain knitted cloths made with pattern wheels, the stitch lengths on certain feeds must be different. Our mechanic took some time to get the correct stitch length when we reset the machine for repeat orders.

We reduced the mechanic's time to do this job and eliminated the guess work. Here's how you do it:

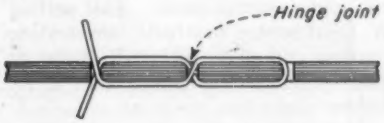
Mark the nose of a sinker with bright-red nail polish. Make a similar small mark on the sinker cap. When the fabric sample is made to satisfaction, turn the machine until the marks line up. Mark all yarns at the bottom stop motion, and turn the machine by hand until the mark on the yarn reaches the mark on the sinker cap.

Count the sinkers between the red-marked sinker and the mark on the sinker cap. Record this figure on your pattern specification chart. Count and record the sinkers between the marks at all feeds.

When you reset the machine, knit jersey cloth, and install the pattern wheels. Adjust the stitch length to the sinkers between the red marks recorded on the specification chart.

If the number of sinkers between the red marks are too many when you turn the machine, raise the stitch cams to tighten the stitch. If the sinkers are too few, slacken the stitch. Repeat this procedure on all feeds.

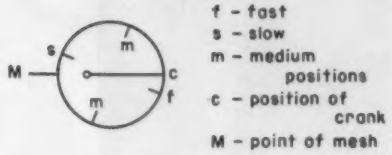
On large-size pattern wheels, you may have to make your yarn mark above the stop motion.




## Laced Belt Is Flexible

A flat belt laced the ordinary way is subjected to uneven tension, and the joint resists bending. However, a belt laced by the hinge-joint method illustrated is pliable and works very well on small pulleys.

To make this type of joint, pass the lace between the belt ends before lacing it through the punched holes. Use the ordinary method of punching holes, and stagger the holes. *W. F. Schaphorst, Newark, N. J.*




(Fig. 1)

## Cardboard Gear Teaches Knowles-Head Settings

It's pretty hard to explain the settings of the eccentric gears on looms with Knowles head motions. But we have found a way to make the explanations easy, and we use the method to demonstrate the various settings to learner loomfixers.

We made an illustration like the one shown in Fig. 1, of the eccentric gear (crankshaft) on a piece of cardboard and marked the position of all the settings. The marks included fast, slow, the two medium positions, the position of the crank, off-center hub, the point of mesh with the other eccentric gear, and the direction of revolution.

The dummy eccentric gear was tacked to a large piece of cardboard marked to indicate the meshing points of the two gears.

To demonstrate the shuttle-box change, the line marked c is placed to indicate the position of the loom cranks when the protector-rod daggers are in the knock-off levers. The effect of the various settings is observed by revolving the dummy.

The harness-change settings are demonstrated the same way.

The setting shown in Fig. 1 gives the smoothest box-motion and harness-motion change for a fabric with very soft-carded and mule-spun filling and a cotton warp. This setting is: front center, five teeth before slow; harness cylinders, six teeth ahead of box cylinders; box-change start ¼ in. before protection position.

However, if the filling and warp are such that the harnesses must be closed at front center, the harness cylinders would be set differently. Where tender yarn is used, settings have to be made so that the yarn is given the least strain.

In all these examples, the dummy is moved on the cardboard, and each movement and setting position is explained to the learner loomfixer. The method is faster than demonstrating with loom settings, and loomfixers are able to learn the settings quickly. *Charles Bicksler, Lancaster, Pa.*

## Best-Kink Award for April

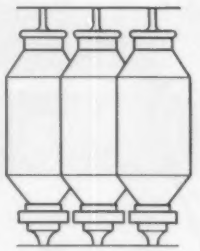
**Each month TEXTILE WORLD awards $25 to the submitter of the Kink judged by a panel of over 200 practical mill men as the best for that particular month. A new batch of Kinks appears each month, and a new group of readers acts as judges each month.**

**If you are asked to judge one of these days, be sure to help select the best Kink by sending back your answer in time for final tabulation. Closing date for judging is the last day of the month in which the Kink appears.**

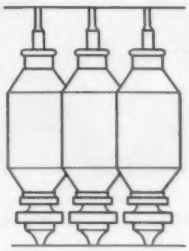
**The best Kink for April, according to TEXTILE WORLD reader-judges, was:**

**"Check Roll Settings With Brass Gauge"**

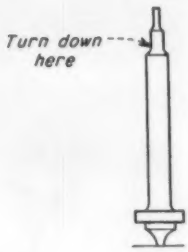
**The winner is being sent a check for $25 with the compliments of TEXTILE WORLD.**



Creel with Inter Bobbins



Creel with Roving Bobbins



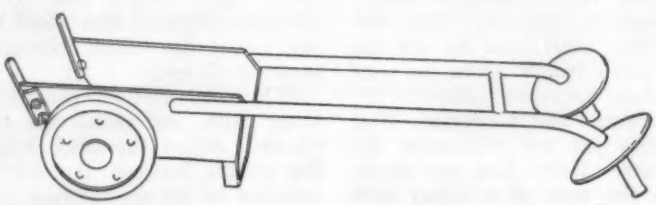

## Use Intermediate Skewers on Fine-Frame Bobbins

On our spinning frames, we use intermediate and fine roving-frame bobbins on the same creels. The barrel of the skewer used on the fine-frame bobbins was not long enough for the use on the longer intermediate bobbins, and the barrel of the intermediate-bobbin skewer was too thick to fit the hole in the top of the fine-frame bobbins.

We raised all the spinning creels to accommodate the longer intermediate bobbins.

The intermediate-bobbin skewers were all turned down at the top of the barrel to fit the smaller fine-frame bobbins and to allow them to fit properly on the skewer base.

We can now run intermediate or fine roving bobbins on any frame, or we can run a mixture of both sizes of bobbins on the same frame. We have dispensed with the use of the fine roving-frame skewers and now use only the intermediate skewers. *I. Jesudas, India*



## Hand-Truck Handle Guards

When a hand truck is being pushed through narrow aisles and congested areas, the trucker can easily hurt his hand on an obstruction. A circular metal guard, about 6 ins. in diameter and similar to the guard on a fencing foil, slipped over each handle and welded just in front of the handle grip will prevent this type of injury. *Gadgets*

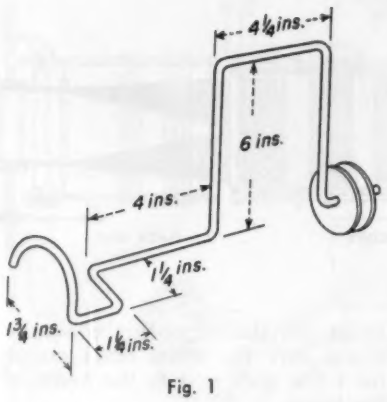



Fig. 1

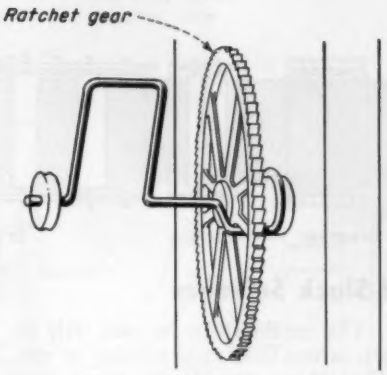



Fig. 2

## Tied Knots Are Pulled Easily Through Looms

We used to have trouble pulling knots tied by a tying-in machine through the drop wires, harnesses, and reeds on our Crompton & Knowles S-model looms and on our Draper XK and XD looms.

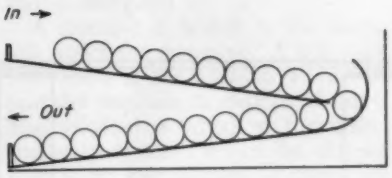
The tying-in-machine helpers always got their hands dirty turning the pick gear, and they often skinned or bruised their knuckles.

We made a simple crank that helps us pull warps over easily. The crank is made from ⅜-in. round steel stock heated in our blacksmith shop and bent to the shape shown in **Fig. 1.**

A truck roll from the color-control motion on an S-6 loom is fastened over the handle end of the tool to serve as a handle.

To use the tool, the end opposite the handle is inserted through the spokes of the ratchet gear and hooked around the hub of the ratchet, as shown in **Fig. 2.**

The handle is held in the left hand and the crank is turned with the right hand. Knots are pulled over faster and easier, and there's no more danger of injuries. *Steven Vernarec, Wallington, N. J.*




## Use Older Supplies First

When cots and rolls are stored in a bin or box, the more recently purchased items, being on top of the pile, are likely to be used first, while the older supplies remain on the bottom. The pressure of such storage on synthetic cots, for example, is harmful and should be avoided.

An effective method of positioning the older supplies so they will be used in the order received is by the use of two inclined planes, as illustrated. Place the cots or rolls as they are received on the top incline, and they will automatically roll down to the bottom incline. Remove the material from the bottom as it is needed.

There is little pressure to distort the cot; and with the top incline constantly filled, there will always be material on hand. *W. F. Schaphorst, Newark, N. J.*


## $500 for Best Kink in 1955
## $25 for Best Kink Each Month

**In Addition to Space Payment on Acceptance**

**Send in your Kink now. There is always a contest going on.**

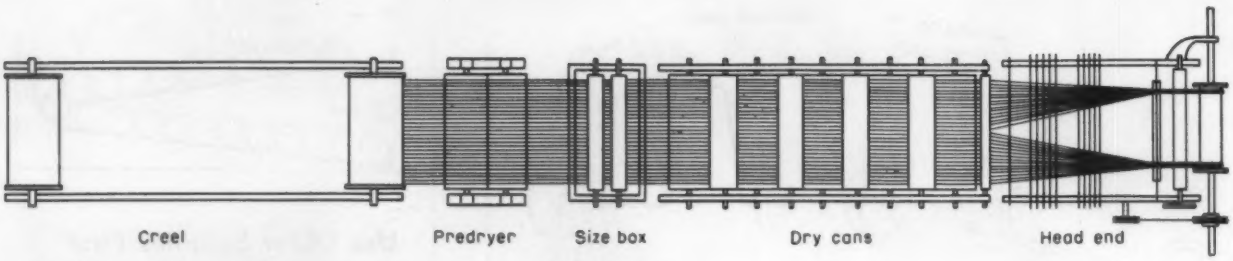
**We will polish up your writing and will have an artist make finished drawings. But send in plenty of details so that your Kink can be clearly explained. Be sure your sketch is clear and well labeled, but it need not be a polished job. Best of all, send us a good glossy photograph of it; we will pay you extra if you do and we can use it.**

**We like ideas for improving machines, new devices that a mill man can build, attachments or methods of merit—anything that will cut costs, improve quality, or help production.**

**RULES OF CONTEST**

1. No limit to number of entries.
2. New $25 prize contest every month, $500 prize contest for the year. Monthly contest confined to Kinks published that month, yearly to those published in calendar year 1955.
3. All Kinks paid for on acceptance; extra payment for photographs. Drawings need not be finished (clear detailed pencil sketches will do).
4. Previously published material not eligible for prizes.
5. Unless you advise to contrary, we assume we may sign your name to Kink when published.
6. Prize winners will be selected by readers, a different group each time. At least 200 will be asked to select preferred Kinks in each issue. Their votes will select the best Kink, and their decision will be final. In cases of ties, duplicate prizes will be awarded.

Send Kinks to:
KINKS CONTEST, TEXTILE WORLD
201 E. Coffee St., Greenville, S. C.

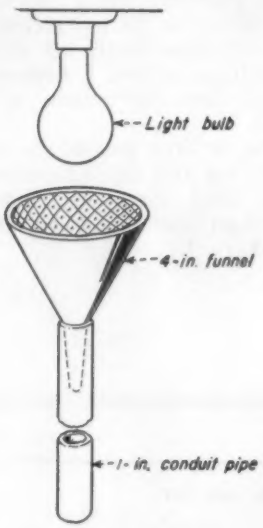



## Slashing To Prevent Tight and Slack Selvages

Tight and slack selvages used to give us a lot of trouble at the loom on plain-weave selvages. A package-creel method at the slasher will eliminate tight and slack selvages, but they can be eliminated more easily if all selvage ends are creeled from a single section beam at the slasher.

This method can be used only on sets where one yarn number is run. The selvage threads are taken from the first section beam back of the size box. The required number of ends to be used as selvage threads are all added to this one beam at the warper. The selvage ends are picked up at the slasher so they're equally spread over the entire beam except for a few ends next to the heads of the beam.

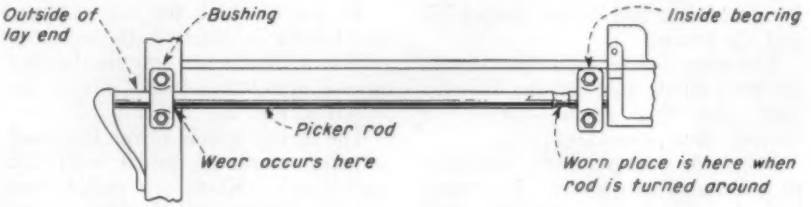
This arrangement is simple but effective in eliminating tight and slack selvages. *O. A. Pendleton, Roanoke Rapids, N. C.*




## Funnel and Pipe Make Changing Lights Easy

In many plants, there are overhead light bulbs, above stairways and in odd corners, that are difficult to change without a ladder. Other tough spots are in warehouses and above outside entrances.

There is an easy and safe way to exchange these hard-to-reach bulbs. We made a special tool by taking a length of 1-in. conduit pipe, which is very light, and shoving a 4-in. funnel into one end. The inside surface of the funnel was lined with sand-roll covering, of the rough-rubber type, attached by gluing. The lining grips the bulb securely, and it is easy to screw the bulb in or out. *C. M. Whitcher, Midland, Ont.*




## Turn Picker Rods Around To Make Them Last Longer

In an effort to reduce our supply costs, we found that we were replacing many picker rods on our C&K C-4 looms. The rods were worn on only one end. The wear occurred where the rods were held in the bushing (arrow) at the lay end.

We now turn these rods around and put the other end in the bushing, and they work as well as new ones. This saves the loomfixers' time because they simply reverse the rods now instead of ordering new ones. Further, they don't have to wait for a new one to be delivered or go after it themselves.

Turned rods last twice as long as they did before we started this practice. The worn place is hidden inside the bumper stop.

## Yardage Counter Helps Knitting Quality Control

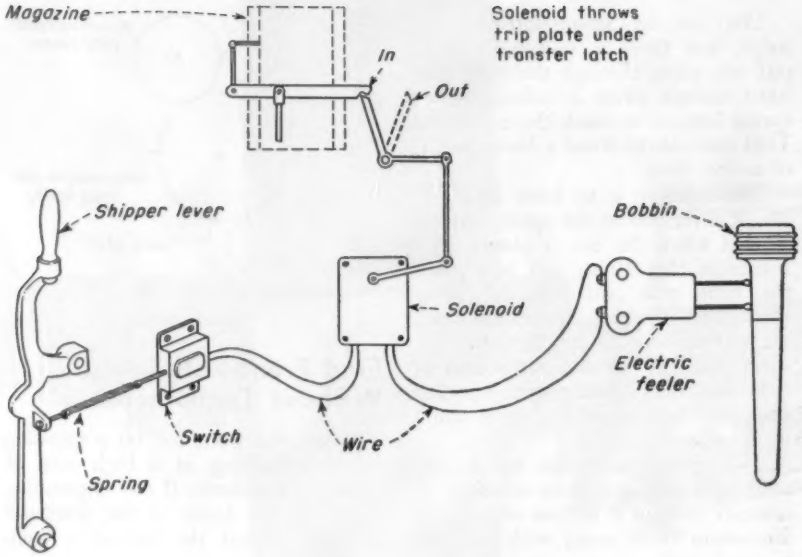
To help control the quality from our ribbed-underwear machines, we attached a yardage counter to each machine.

The counter is fastened onto a bar screwed to the machine frame just above the fabric take-up rolls. The counter is operated by a 12-in.- circumference wheel. Long-wired card clothing that contacts the cloth turns the wheel and the counter.

The knitter records the length of each roll on the production ticket. When the roll is weighed, the two figures are used to calculate the weight of fabric per yard.

If the figure is out of tolerance, the yarn size is checked and the knitting machine adjusted.

[*Some knitting mills use predetermined stop counters for this work, as described in TW, p. 105, March, '54*—EDITOR]




## Add Electric Feelers To Weave Filament Rayon

Our silk looms with stationary bobbin-changing magazines were run on woolen and worsted filling for a long time.

A short time ago, we started running fabrics with filament-rayon filling. Since the looms were all equipped with mechanical sliding feelers, the filament filling was cut and, consequently, second-quality cloth was made.

We have designed a new electric-feeler motion to replace the mechanical feeler.

First, a make-and-break switch is fastened to the loomside on the magazine end of the loom near the shipper lever. The switch is wired to the electric warp-stop-motion transformer and is energized by 12 v.

A solenoid is bolted to the loomside under the magazine. A trip plate with levers to the solenoid is fastened near the magazine to indicate changes. The solenoid is wired to the make-and-break switch. When the shipper lever is on, the solenoid is energized; when the lever is off, there's no power on the solenoid.

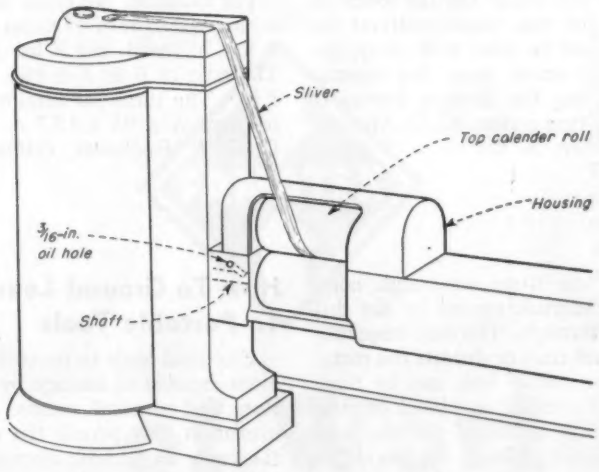
An electric feeler is placed on the feeler stand to replace the old sliding feeler, and the feeler is wired to the solenoid.

Bobbins with metal ferrules at the butts are used to replace all-wood bobbins. Now, when the filling runs nearly off the bobbins, the two prongs of the electric feeler touch the bobbin ferrule and indicate a change to the solenoid. The solenoid, in turn, is activated and pulls the trip plate under the transfer latch to make the magazine transfer.

This electromechanical feeler motion can readily be attached to any silk, rayon, or woolen loom at a small cost.

In our own mill, we run rayon filling of 50 den. and above with no cutting or bruising the filling.

Now, we're getting higher loom efficiency and better cloth. *Charles R. Batzer, Lancaster, Pa.*

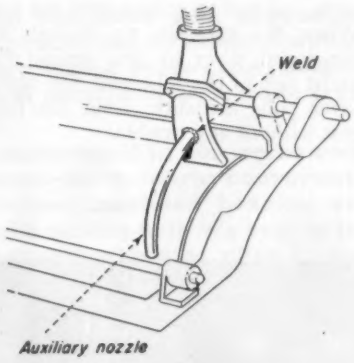



## Drill Hole To Oil Calender-Roll Shafts

We frequently have had to replace the bottom calender-roll shafts on our cards because the shafts were wearing in the calender-roll stand. This wear caused the card to produce a soft, bulky sliver.

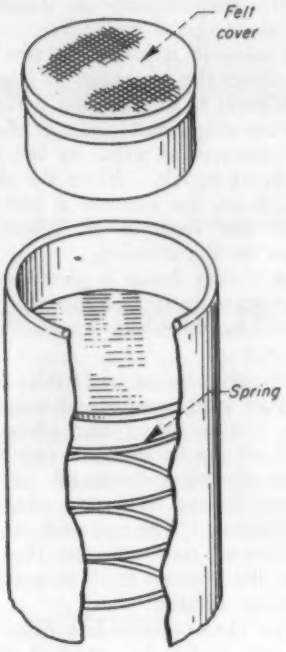
The only place in which to oil the shaft is on the side of the card that is next to the gear train.

I instructed my grinder to take the cap from the stand and drill a $\frac{7}{16}$-in. hole at an angle to the bearing. Now, the shaft can be oiled every 8 hrs. without trouble, and our calender-roll shafts do not wear. *M. T. Lance, Jr., Hillsboro, Tex.*




## Vacuum Nozzle Keeps Comb Strips out of Waste

Our cards are equipped with vacuum stripping, but we had trouble with the little strips on the comb dropping into the reworkable waste. We tried to remove these strips by hand, but they kept falling into the waste. Finally, we welded a $\frac{1}{2}$-in. auxiliary pipe onto the vacuum nozzle with the end as close as possible to the comb. This extra nozzle picks up the strips, and we no longer have this trouble.




## Spacer in Drawing Can Pulls Sliver From Coiler

Static is a problem in running synthetics on our cotton drawing frames.

When a full can of sliver is doffed and an empty can is placed on the drawing-frame turntable in the normal way as in running cotton, the sliver sticks in the tube gear, as a result of static, instead of coiling into the can. When the can fills up enough for the coiled sliver to bear against the under side of the tube gear, the coiled sliver pulls the sliver from the tube gear without any trouble.

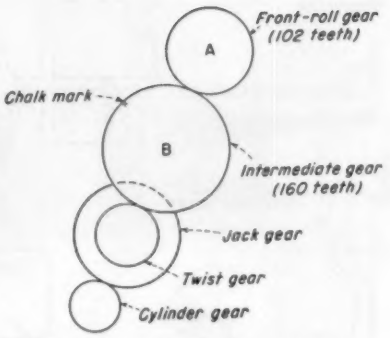
The use of spring-bottom cans helps, but there is still nothing to pull the sliver through the tube gear until enough sliver is coiled on the spring bottom to reach the tube gear. That amounts to about a 10-in. height of coiled sliver.

One solution is to leave about 10 ins. of sliver coil on the spring bottom so that when the can is placed on a turntable this 10-in. coil will reach the tube gear and pull the sliver through. However, the empty cans are a little hard to handle with such sliver coils left on top; and sooner or later the coil is damaged or knocked over, and as a result the sliver winds up as waste.

The spacer shown in the accompanying sketch is a better solution. It consists only of a hollow cylinder of aluminum sheet metal with one end covered with clearer cloth or felt. The sheet-metal cylinder is 11½ ins. in diameter in order to fit inside a 12-in. sliver can and is 10 ins. high to fill the space between the spring bottom of the sliver can and the tube gear.

In use, the uncovered end of the spacer is placed on the spring bottom of the sliver can and the felt-covered end bears lightly against the under side of the tube gear. As the can and tube gear turn, the felt holds the sliver and pulls it through the hole in the tube gear.

While this spacer fills the lower 10 ins. of a full can, which, without the spacer would be filled with sliver, the use of the spacer saves the expense of converting the drawing frames to synthetics-type coilers. *C. C. Morrow, China Grove, N. C.*



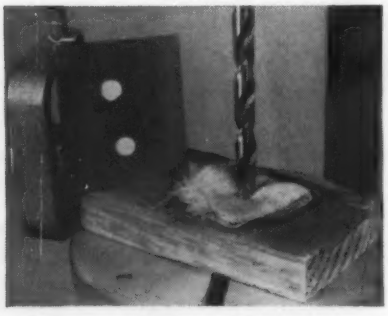

## Find Front-Roll Speed Without Tachometer

When the front roll on a spinning frame is turning at a high rate of speed, it is difficult, if not impossible, to count the turns of the front-roll gear *A* without the use of a tachometer.

If a tachometer is not available, a simple, effective method of determining front-roll revolutions is as follows:

Make a chalk mark on the intermediate gear *B* that is driving the front-roll gear. Since this gear is turning much slower than *A*, the turns of *B* can readily be counted for a period of 1 min. by timing it with the second hand on a watch. These turns are then multiplied by the ratio of the gear teeth and the resulting answer is the speed of the front roll.

For example, the chalk mark on *B* is observed to turn 95 times in 1 min. *A* has 102 teeth and *B* has 160 teeth. The ratio of *B* to *A* is $160 \div 102 = 1.57$. The turns per minute of front-roll gear *A* is $95 \times 1.57 = 149$ rpm. *Doyle E. Rochester, Gaffney, S. C.*



## How To Drill Thin Metal Cleanly

It usually is very difficult to drill sheet metal that is thinner than the drill diameter. Often the hole is not circular, and there are rough edges on the underside caused by the drill breaking through. The drill frequently catches and tears or distorts the metal.

A clean, round hole can be made by laying the metal on a block of wood and placing a cloth pad over the work before drilling. Clamp the wood and work securely to the table to prevent the possibility of the sheet metal whirling and causing injury. The wood block supports the metal against the drill pressure and prevents vibration.

Feed the drill firmly downward through the work and into the wood block underneath. The folded rag will whirl around with the drill, but the hole will be circular and free from ragged edges. *C. T. Bower, London, England*

## How To Ground Leads To Portable Tools

Electrical leads to portable tools are often exposed to damage by oil, moisture, and physical means. Damaged insulation may permit the outside of the cable to become electrified. The leakage will then be transmitted to any contacting metal, although it may not be sufficient enough to blow a fuse.

To prevent this condition, ground a flexible, bare copper conductor and run it the length of the cable. Then paint the cable and conductor with aluminum paint. Since the paint is a conductor, the cable is effectively grounded. *W. E. Warner, Essex, England*

# FAMATEX

# STENTERS

**are Universal Machines with unequalled efficiency in processing all kinds of woven, knitted or warp knitted goods of any desired width, made of natural or man-made (synthetic) fibres.**

**They are manufactured in our works complete with chain-rails, fabric conveyance chain, ventilation, insulated housing and on request with setting unit. We supply the chain alternatively with pins, clips or pin-clip combination.**

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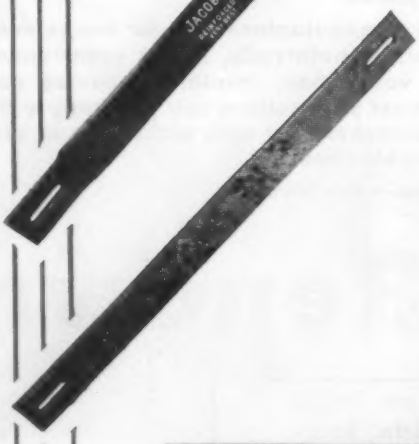

- *"Verybest"* **CONVENTIONAL**—*Straight*, cut to your own specifications. Uniform in width, thickness, and performance.

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Textile World

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# *Outstanding* TRADE LITERATURE *Free for the Asking*

**NO REPEATS . . .** Listed here for June are current bulletins reviewed by the editors of TEXTILE WORLD. To get the ones you need, circle the number on the Reader-Service card, as described on the preceding page.

## TEXTILE MACHINERY

**Even-draft drawing frame**—For fiber lengths ⅞ to 3 ins. Front-roll speed 150 ft. per min. 4-over-5 roll arrangement. Whitin Machine Works. (F-1)

**Automatic cone winder**—Up to 120 spindles. Increases production 100 to 300%. One operator handles 16 to 18 bobbins per min. Foster Machine Co. (F-2)

**Wool spinning frame**—80 to 160 spindles. Up to 12-in. traverse. Varispeed frame control. Oilite front-roll bearings. Whitin Machine Works. (F-3)

**Monofilament cone winder**—For hosiery and tricot yarns. 18-oz. pineapple cones. Speeds up to 680 yds. per min. on multifilament yarns. Schweiter Ltd. (F-4)

**Beaming machine**—Up to 36-in. flange diameter. For all yarns. Maintains constant yarn speed 100 to 900 yds. per min. Suitable for dye beams. Robert Reiner, Inc. (F-5)

**Multicoater**—For impregnating, embossing, knife coating, two-web laminating, reverse roll coating. Up to 60 ins. wide. Bulletin 1018. John Waldron Corp. (F-6)

**Web and strand winding machines**—For constant-tension winding for extruding, coating, tentering, drying, calendering, etc. Hobbs Mfg. Co. (F-7)

**Hosiery inspecting machine**—For full-fashioned and seamless hosiery. Stockings are turned inside out and stacked or bagged. Southern Textile Machinery Co. (F-8)

**Hosiery boarder**—One operator can preboard or final board over 200 doz. pairs of socks in 8 hrs. Occupies 3½ x 5 ft. Southern Mill Equipment Corp. (F-9)

**Textile wrapping machine**—Handles many sizes up to 40 packages per min. Electric eye keeps packages alike. Hayssen Mfg Co. (F-10)

## AUXILIARY EQUIPMENT

**Woolen-card Pneumafil system**—To fit all makes and widths of tape condensers. Automatically carries waste ends and free fibers to hopper. Pneumafil Corp. (F-11)

**Laboratory dryer**—For research and pilot plants. Mobile. Fully instrumented. Steam or electric heating. Bulletin 204. C. G. Sargent's Sons Corp. (F-12)

**Appearance-retention tester**—For fiber, fabric, and finish development and control. Fabrics tested wet or dry for pilling, surface wear, abrasion. Fabric Development Tests. (F-13)

**Abrasion tester**—For all fabrics. Material is placed on specimen holder and clamped with nut and washer. Bulletin 5409. Taber Instrument Corp. (F-14)

**High-speed mixer**—For preparation of pigmented textile inks and portable batch homogenizer. Operates at 10,000 rpm. Hermas Machine Co. (F-15)

**Cord compensator**—Supplies proper tension to cords and industrial yarns


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from 1 to 7 lbs. tension. Speeds up to 200 yds. per min. Walter Kidde & Co., Inc. (F-16)

**Picker-lap tester**—Measures both longitudinal and lateral weight variations while lap is processed. Weight indicated without moisture. Brush Electronics Co. (F-17)

**Dye-package permeability comparator**—Four packages checked each minute. Also used to check winding tensions. Sheffield Corp. (F-18)

**Label cutting and folding machine**—Any width from ⅜ to 1⅝ ins. Has 3¾-in. automatic feed. 65 to 90 strokes per min. J&H Label Processing Corp. (F-19)

**Utility blowers**—With backward curved blades. Belt-driven, direct drive, nonoverloading. Hartzell Propeller Fan Co. (F-20)

## SUPPLIES AND CHEMICALS

**Industrial crayons**—For use with standard chlorine- or peroxide-bleach processes. Size 4 x 1 ins. 35 colors. Binney & Smith, Inc. (F-21)

**Bearing units**—Lubricated at plant. Sealed for life. Rubber mounted. Cartridge, pillow-block, and flange-type units. Bulletin 1253. Sealmaster Bearings. (F-22)

**Fiber lubricants**—High static control. Removed with minimum soap consumption. Resists yellow staining. Reduces fiber abrasion. Emery Industries, Inc. (F-23)

**Synthetic detergent**—For piece-goods scouring, continuous vat and sulfur dyeing, chlorine or peroxide bleach, package dyeing. Armour & Co. (F-24)

**Viscosity conversion chart**—Quickly translates any viscosity measurement into seven other standards. Nopco Chemical Co. (F-25)

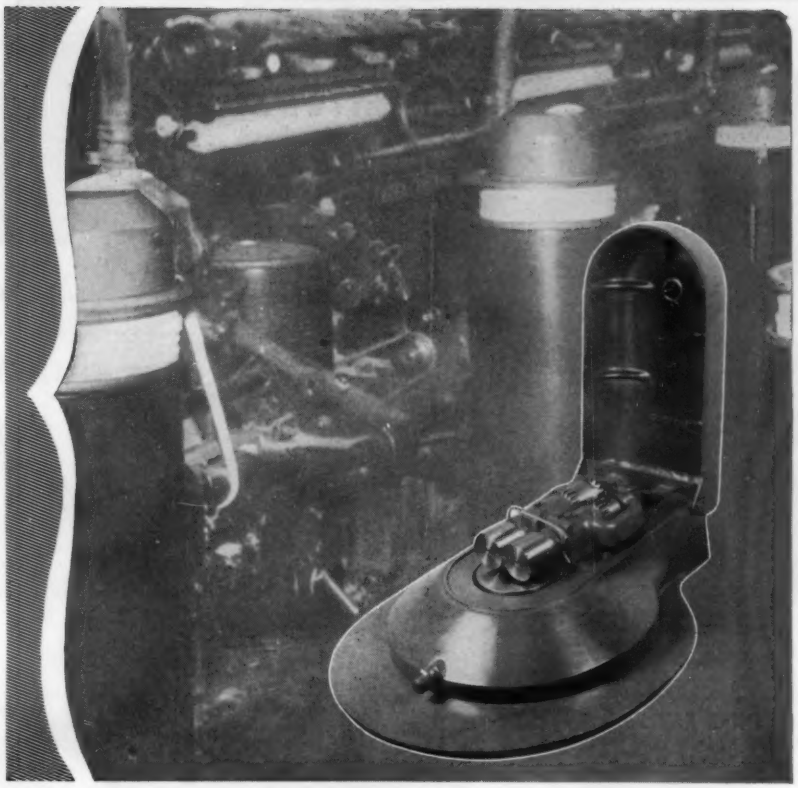
**Sodium phosphates**—For kier-boiling cotton, bleaching, dyeing dark sulfur colors, soaping off naphthol-dyed goods. Monsanto Chemical Co. (F-26)

**Saddle guides**—Eliminate front cap bars. Antifriction, ball-bearing front roll. No lubrication on top rolls. Dixon Corp. (F-27)

**Leather aprons and tapes**—Dimensional standards. Installation instructions for condenser aprons, gill-box aprons, shuffle aprons. National Industrial Leather Assn. (F-28)

**Cutting blocks**—For hand-die or clicker-machine cutting. In black and tan. For cutting fiber, felt, cloth. Colonial Rubber Co. (F-29)

**Steel collars**—With Unbrako self-locking setscrew. For shafts from $\frac{3}{16}$ to 3-in. dia. on winders, twisters, looms. Standard Pressed Steel Co. (F-30)

# SOUTHERN STATES COILER HEADS MAKE CONVERSION TO LARGER CANS A SELF-PAYING PROPOSITION

Every mill man with an eye for ways to cut card room operating costs knows the advantages of larger cans. But what some don't realize is that Southern States conversions are so economical that they pay for themselves—a fact proved by case histories of mills throughout the country.

The Southern States Universal Coiler Head, illustrated above, is designed for either 14- or 15-inch cans. It is adaptable to any make of coiler. Using this head, intermediate gearing, coiler base and *your existing stand*, an inexpensive installation can be made in your mill.

Then you can enjoy all of these advantages: simplified oiling; ease of maintenance; smaller parts inventory; more efficient handling; lower operating costs; and improved quality. The photograph shows the simplified design of this head. Notice the streamlined cover and bonnet. Cut tooth gears and oilite bearings are used throughout. It is precision built for years of satisfactory service.

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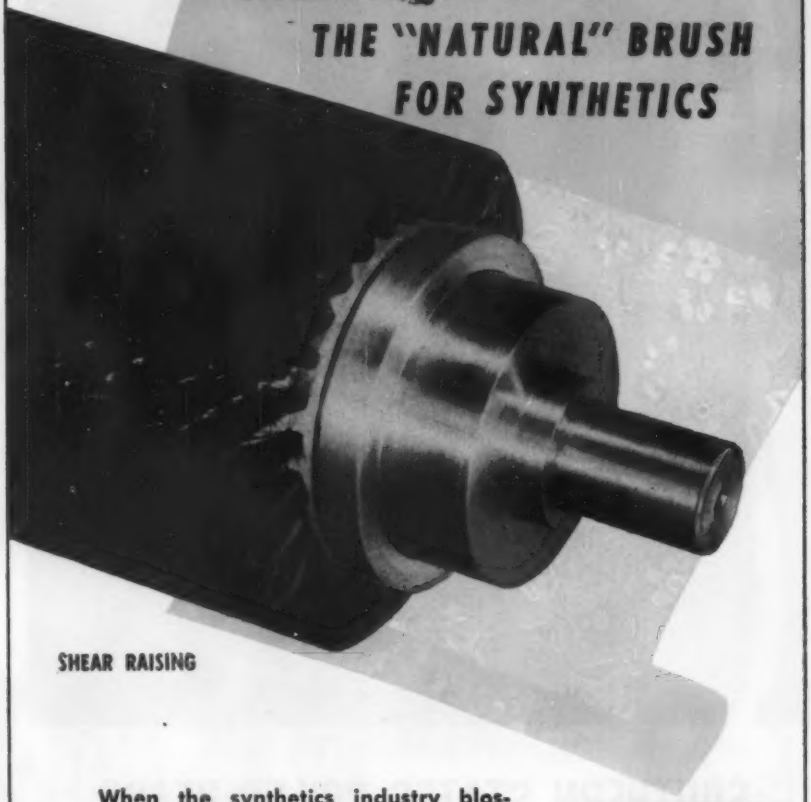

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When the synthetics industry blossomed forth some 25 years ago, M. W. Jenkins' Sons brought their considerable experience to the industry. Having designed brushes for textiles since 1877 and keeping abreast of technological advances, M. W. Jenkins' Sons then and since developed a series of brushes specifically designed to meet the new and challenging problems presented.

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For any problem requiring brushes, M. W. Jenkins' Sons is prepared to supply a standard or special brush to meet your need.

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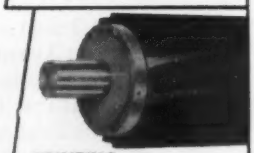

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## READER SERVICE Continued

### ENGINEERING AND MAINTENANCE

**Rusted-surface primer**—Applied over rust to stop corrosion. Can then be painted. Can be brushed-painted or sprayed. Rusticide Product Co. **(F-31)**

**Electrical heating unit**—Flexible copper-sheathed element that can be wrapped around tanks, pipes, and valves. Withstands up to 480° F. Continental Electrical Equipment Co. **(F-32)**

**Lubrication equipment** — Barrel to bearing, conveyor lubricator, Oil-Mist systems. Spray, extrude, package, transfer equipment. Stewart-Warner Corp. **(F-33)**

**Floor-finishing system**—Makes floors safer to walk on, easier and faster to clean, saves labor, lengthens floor life, lowers maintenance costs. E. I. du Pont de Nemours & Co., Inc. **(F-34)**

**Valves**—With solder and socket ends. Globe and angle, swing check, and gates. Jenkins Bros. **(F-35)**

**Tools**—Work benches, stud removers, impact wrenches, power nut runners, torquemeter, wrenches, socket sets. Catalog U. Snap-On Tools Corp. **(F-36)**

**Steel**—Square-edge flats, half ovals, plain squares, angles, hot-rolled strip, flow plates, cold-finished round, roofing scale. Atlantic Steel Co. **(F-37)**

**Floor resurfaces**—Prevent accidents caused by rough, broken floors. Applied by unskilled labor in 2 hrs. Ranco Industrial Products Corp. **(F-38)**

**Measuring and controlling systems**—For liquid levels. Float-actuated, gamma-ray, electrical conductivity systems. Bulletin 1161. Minneapolis-Honeywell Regulator Co. **(F-39)**

**Pumps** — Turbine type — centrifugal, horizontal, vertical. Single suction, double suction, multistage, mixed flow, nonclog. Aurora Pump Co. **(F-40)**

### GENERAL

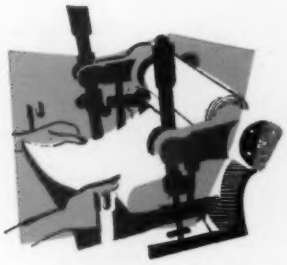
**Taping machine**—Delivers any two preset lengths of gummed tape accurately measured and moistened with warm water by finger touch. Marsh Stencil Machine Co. **(F-41)**

**Power strapping machine**—For cartons and boxes. Strap tension easily adjusted. Fits into conveyor lines. Signode Steel Strapping Co. **(F-42)**

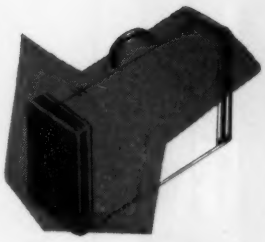
**Facts on Puerto Rico**—Financial facilities, taxes, labor, buildings, markets, transportation. Puerto Rico Economic Development Administration. **(F-43)**

**Training**—Problems of training. Who should be trained. When to train. What to teach. Methods of training. Wheeler Associates, Inc. **(F-44)**

**Portable products**—Tables, benches, stands, stages. Quickly wheeled to any room. Fold in seconds. Take little space. Haldeman-Homme Mfg. Co. **(F-45)**

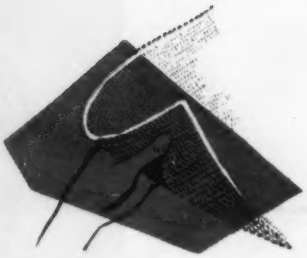


for paper treatment?

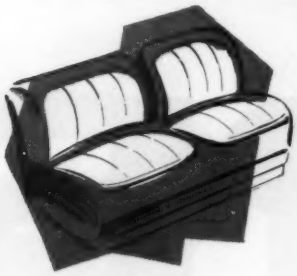


for leather finishing?

for water-based paints?

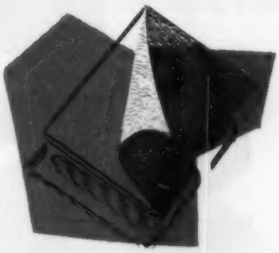


for rug backing?



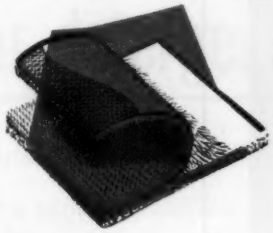
for textile sizing?

# Have you tried a NAUGATUCK LATEX or LOTOL?



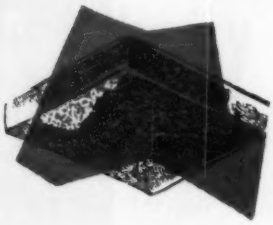
for bonding wood, leather, fiber?

for dipped products?



for binding flooring, cushioning?

for pressure-sensitive tapes?



for bonding curled hair or vegetable fibers?

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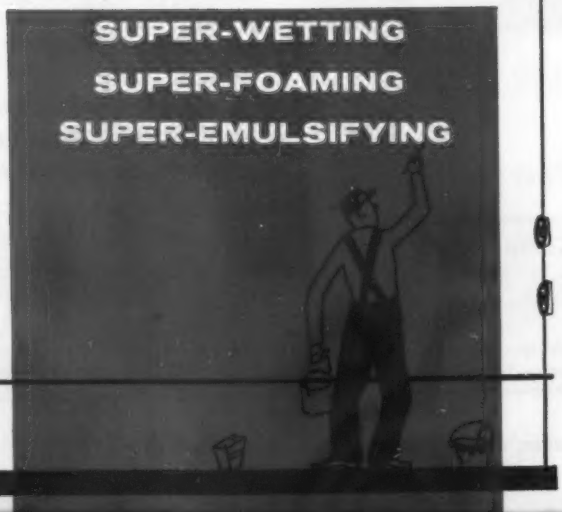
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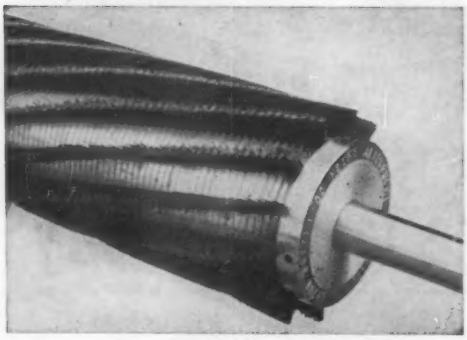

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**REFILLABLE**
**WHEN WORN**

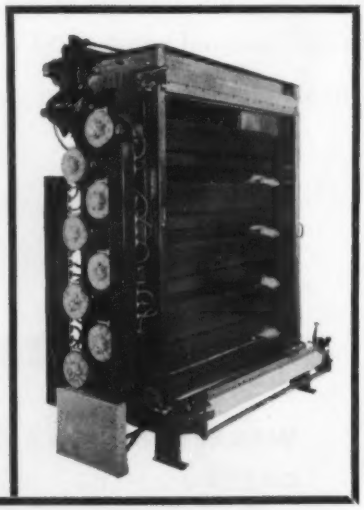
Made completely in our own well equipped machine shop—on the assumption that the brush is only as good as its core. We take great care that the metal core on every industrial brush runs true and without vibration for the life of the core. This eliminates a major cause of streaky finished goods. OUR METAL CORE can be refilled many times, giving service equal to a new brush.

## INDUSTRIAL's METAL CORE BRUSHES SAVE THREE WAYS:

1. **Initial cost is lower than you think.**
2. **Refill price is less than a new brush.**
3. **Quality of your product will improve.**

We offer a complete line of machine brushes for every textile application, with an engineering dept. to assist in designing the type brush best suited to your needs.

*Whether you need a small brush or a carpet brush in excess of 25 ft., we invite your inquiries; write to*



## INDUSTRIAL
BRUSH COMPANY, INC.
LITTLE FALLS, NEW JERSEY
U. S. A.


**READER SERVICE Continued**

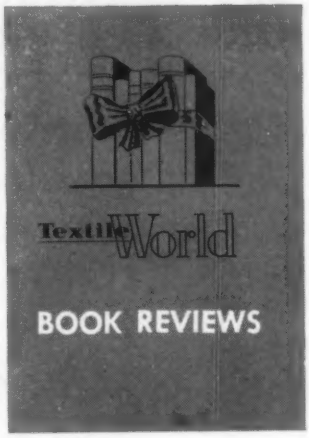
**Storage problems** — Steel shelving, parts bins, steel benches, trucks, drawer units. Aurora Equipment Co. **(F-46)**

**American standards**—For textiles and wearing apparel, furnishings, mechanical, electrical. American Standards Assn. **(F-47)**

**Punched-card methods**—For billing, receivables, sales, payroll, production. For large and small businesses. TM-930. Remington Rand Inc. **(F-48)**

**Tear-strip containers**—Corrugated cartons opened as easily as a cigarette pack. Minnesota Mining & Mfg. Co. **(F-49)**

**Dynel-rayon blends**—Offer new textures, longer wear, lasting press, greater strength, and pleat and crease retention. Union Carbide & Carbon Corp. **(F-50)**




**PRACTICAL PLANT LAYOUT,** by Richard Muther; McGraw-Hill Publishing Co., 330 W. 42nd St., New York 36, N. Y.; 384 pages, $12.

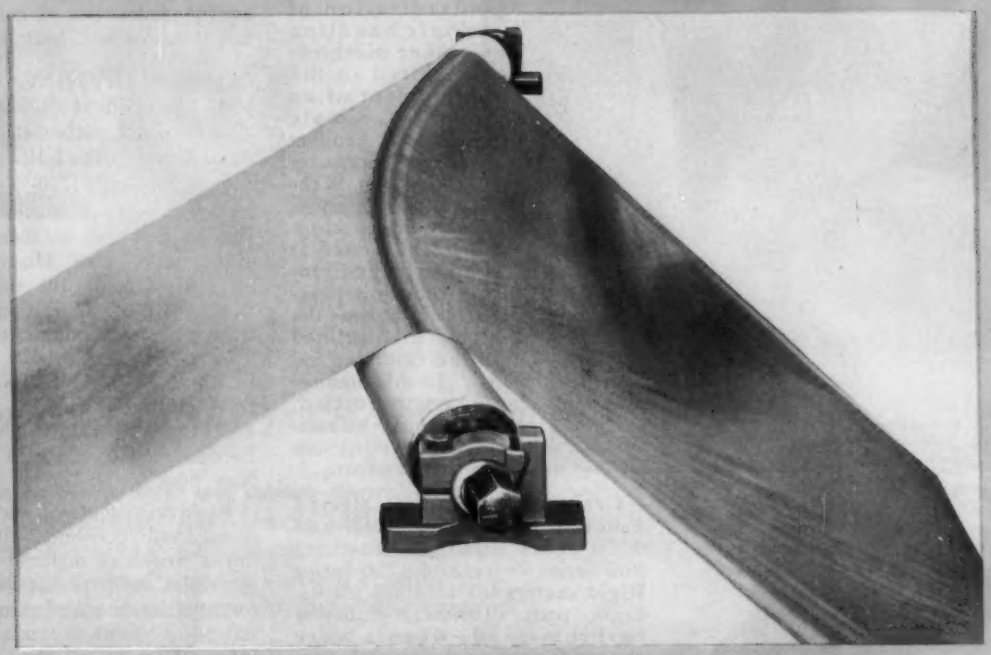
Plant-layout, industrial, and materials-handling engineers will be especially interested in this practical guide to the elements of good plant layout and the specific procedures of planning sound layouts. Plant layout is divided into four logical phases: location, the over-all layout, the detailed layout, and installation.

Eight factors that influence plant layout are identified and discussed individually; then they are woven together with the principles of layout planning to explain the detailed techniques of how to plan sound plant layouts.

CONTINUED ON PAGE 190

Mount Hope SYSTEM

# More and More Textile Plants
## *are Using the*
# MOUNT HOPE SYSTEM
## *for INCREASING their*
# MARGIN of PROFITS



Mount Hope "Free Wheeling" Expanders—used alone or integrated with the Mount Hope System—are used by outstanding representatives of the textile industry.

**For Maximum Production—Lower Cost—Minimum Seconds—use the Complete Mount Hope System**

Call your Mount Hope Representative—or have us survey your plant without obligation.

*—Originator of Modern Expanders—*
*Leader in Cloth Handling Equipment*

Russell

Thomaston

J. P. Stevens & Co. Inc.

VALENCIA DAVIS & CATTERALL

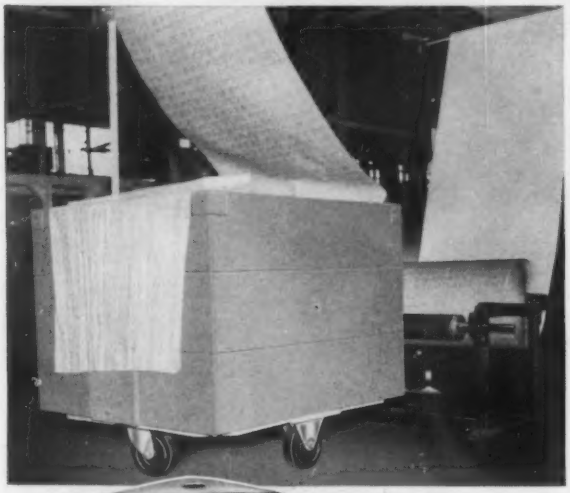
NORTH CAROLINA FINISH

REEVES "first in functional fabrics"

BACHMANN UXBRIDGE WORSTED

MOUNT HOPE MACHINERY COMPANY
15 FIFTH STREET, TAUNTON, MASS.

**CRANSTON PRINT WORKS, WEBSTER, MASS., USES FAULTLESS CASTERS FOR ECONOMICAL FLOW OF FABRICS**



Standardization of materials handling equipment methods has resulted in the establishment of an economical, simple procedure of product flow in the Cranston Print Works at Webster, Mass. Faultless Caster equipped cloth box trucks are used at each stage of the Cranston production process—from the time the cloth is first printed until the cloth is "finished." In this manner large quantities of cloth in process can be handled with a minimum of space and effort.

200 SERIES WITH DOUBLE BALL BEARING SWIVEL

Heavy pressed steel frame and King-pin assembly has made it famous for heavy duty work. Large size balls distribute the load around an unusually large raceway. All bearing surfaces are hardened.

Cranston engineers selected Faultless 200 Series Swivel and 2700 Series Rigid, and Faultless 900 Series Swivel and 9700 Series Rigid casters for all their trucks. Eight inch diameter, Ruberex, cushion-tread, wheels were chosen for use on the smooth concrete floors of the Massachusetts plant. The rigid plate casters are blocked up on the outside centers on the trucks. This provides a highly maneuverable tilt-type conveyance, ideally suited in plants where sharp turns are required.

For *your* Mobile Equipment, your local Faultless Industrial Distributors can recommend the proper Faultless Truck Casters best suited to the load carried and conditions of use.

Your Faultless Distributor is listed in the phone directory "yellow pages" under "Casters, Industrial" below Faultless Trade Mark. He can usually give you immediate delivery from his complete stock of Faultless engineered products. Telephone him today.

The 2700 Series is the Rigid Companion to the 200 Series. Designed and built for solid rigidity. Deeply embossed and drawn from heavy gauge steel. It is solidly formed to withstand strain and wear.

FAULTLESS CASTER CORPORATION
EVANSVILLE 7, IND.

FAULTLESS SOLVES THE TOUGH JOBS


## BOOK REVIEWS Continued

**PRINCIPLES AND PRACTICE OF ELECTRICAL ENGINEERING,** 7th Edition, by Alexander Gray; McGraw-Hill Publishing Co., 330 W. 42nd St., New York 36, N. Y.; 600 pages, $7.

Designed primarily for nonelectrical engineers, this book reviews briefly the parts of electrical physics that are essential to an understanding of the generation, transmission, and utilization of electrical power. It describes and discusses principles of operation and characteristics of generators, motors, transformers, batteries, etc.

**COTTON OPENING AND PICKING,** by Gilbert R. Merrill; available from the author at 364 Varnum Ave., Lowell, Mass.; 102 pages, $2.50.

Prof. Merrill's book has been used for many years in textile schools, and this revision will be seen around for a long time. Prof. Merrill must have been working on the book right up to the date of publication, for all the latest opening equipment is included.

**PERSONNEL AND INDUSTRIAL PSYCHOLOGY,** by E. W. Chiselli and C. W. Brown; McGraw-Hill Publishing Co., 330 W. 42nd St., New York 36, N. Y.; 485 pages, $5.50.

Business executives, industrial engineers, and personnel directors will find a wealth of material here on the principles and procedures necessary for an effective use of manpower. The second edition contains the latest information on methods, points of view, evaluation, training, and other advances in the field.

**HOW TO RUN A LATHE;** South Bend Lathe Works, South Bend 22, Ind.; 128 pages; paper, 50¢, imitation leather, $1.50.

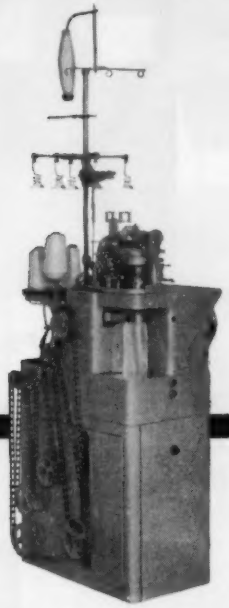
The 53rd edition of this book contains some new material on the use of toolmaker's buttons, the steady rest, follower rest, internal grinding attachment, and precision gauge blocks.

But the main purpose of the book is still to serve as a basic guide to lathe operation. Eleven chapters are written in nontechnical language, and there are 365 illustrations.

**INTERPRETATION OF ENGINEERING DATA: Some Obervations,** by Harold F. Dodge; American Society for Testing Materials, 1916 Race St., Philadelphia 3, Pa.; paper, 36 pages, $1.50.

The 1954 Marburg Lecture deals with the basic interpretation of statistical data: sampling, frequencies, prediction, etc.

# TORRINGTON NEEDLES



*help maintain the peak performance of the Fidelity "400"*

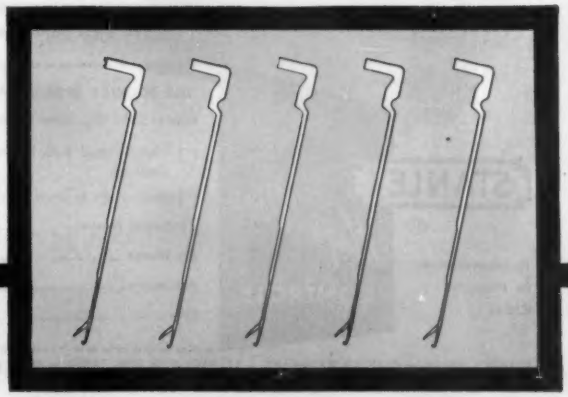
***Where smooth needle finish and uniform dimensions*** are essential. The Fidelity "400" Needle Ladies Seamfree Hosiery Machine is electronically controlled to permit instantaneous changes in knitting speeds and provide complete versatility for the many new yarns constantly being developed.

"We find Torrington Needles are outstanding for precision," says Mr. R. D. Faigenbaum, Vice-President of Fidelity Machine Company, Inc. "Operating in conjunction with our Electronic Control, they play an important part in maintaining steady production of fine seamless hosiery."

Users of all types of knitting machines can profit from similar steady production with the aid of Torrington Needles. Their consistent high quality pays off in longer service life, a minimum of down time for replacements, and precision performance that helps insure first quality fabrics.

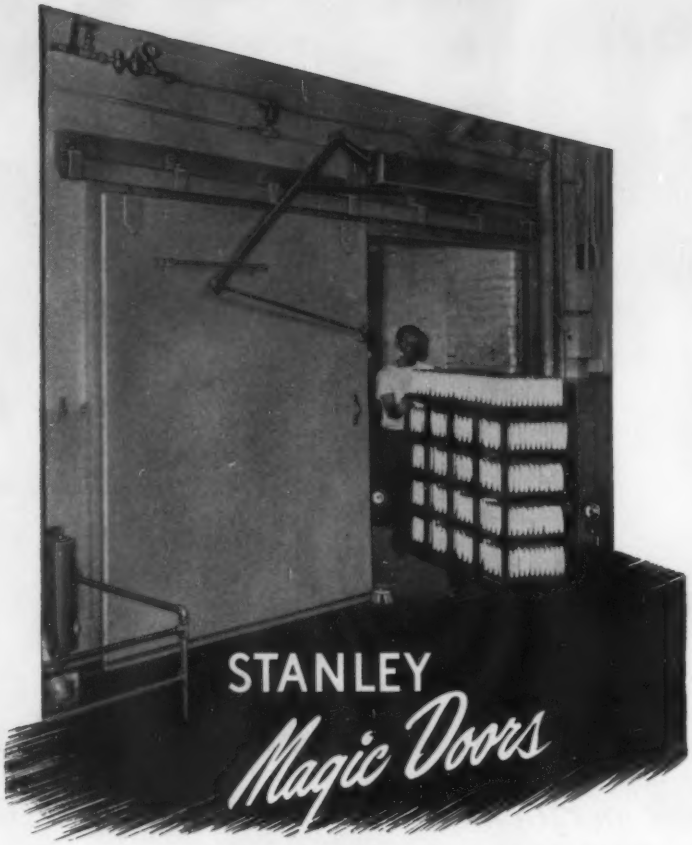
Your requirements for dependable spring beard or latch needles—of whatever type or size—can be met by Torrington. Moreover, Torrington's long experience in needle design and production is available to help solve needle problems. A call to your nearest Torrington office will receive prompt attention.

**THE TORRINGTON COMPANY**
Torrington, Conn., U.S.A.
Established 1866



*There's a* **TORRINGTON NEEDLE**

*for every machine... for every type of knitting*




CONTROL HUMIDITY, ROOM TEMPERATURES

at WAUMBEC MILLS, Manchester, N.H.

Executives of the Waumbec Mills, Inc., Manchester, N. H. find their Stanley Magic Door Controls pay for themselves in two important ways.

Stanley Magic Door Controls act to seal in humidified air, keep room temperatures at desired levels. Doors open on approach, stay open until passage is clear, then close automatically.

They increase operating efficiency, lower operating costs. Use these check-points to benefit from Waumbec Mills' experience:

- **Maintenance.** Don't "bang" doors open. It costs plenty in repair bills, high replacement costs.
- **Time and Effort.** It takes man-hours to pull and tug at heavy plant doors. Magic Door Controls move traffic without wasted motion.
- **Labor Relations.** Cement and improve good employee relations with Magic Door Controls. Magic Door users find they step-up production, cut absenteeism. Whether your present doors swing, fold or slide, Stanley Magic Door Controls will expedite work flow in your mill.

Regular Stanley Magic Door operator with pull cord control, handling two-way traffic through an "in" and "out" door, using existing air supply and existing door can be purchased for less than $500. Send for full information today.

STANLEY ®
Representatives in Principal Cities

Magic Door CONTROLS

THE STANLEY WORKS, Magic Door Division
016-M Lake St., New Britain, Conn.

☐ Please send full information on Stanley Magic Door Controls.
☐ Call when in area.

Company Name _____
My Name _____
Address _____
City _____ Zone _____ State _____

STANLEY TOOLS • STANLEY HARDWARE • STANLEY ELECTRIC TOOLS • STANLEY STEEL STRAPPING • STANLEY STEEL

## Packaging & Sealing

CONTINUED FROM PAGE 129

### Case-Sealing Machine

An automatic case-sealing machine was shown by Schroeder Machines Corp., Syracuse, N. Y. Floor space required is an area of 15 sq. ft. The machine seals about 360 12-in. cases per hour. It is automatically lubricated and has a wide range of adjustability. **(B-36)**

### To Seal Package Ends

A heat-sealing machine for closing an end of envelopes used for packaging hosiery, underwear, gloves, etc. was shown by Vertrod Corp., Brooklyn, N. Y. The machine will seal packages up to 42 ins. in length at a rate up to 20 packages per minute. **(B-37)**

► A bag-top closer suitable for sealing saran, Pliofilm, and vinyl was shown by Electronic Processes Corp., Los Altos, Calif. The filled open-top bag is fed either automatically or by hand into one end of the welder, where it is gripped by continuous belts and carried through the unit. Bag speeds range from 30 to 60 ft. per min. **(B-38)**

CONTINUED ON PAGE 194

# COMPARISON PROVES THE

# SAFETY

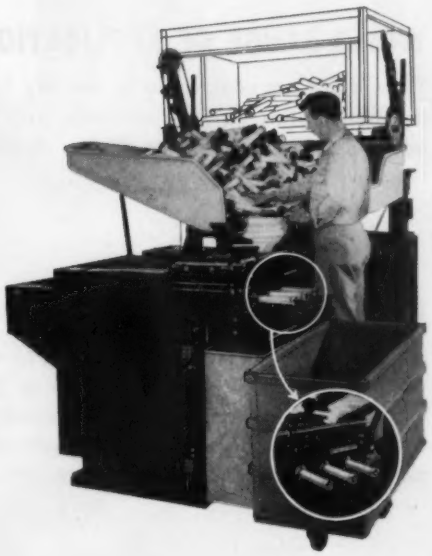
## OF THE NEW MODERN

# TYPE M

## ROVING BOBBIN CLEANER

Note the scratches and nicks on bobbin No. 1. They are the result of obsolete cleaning methods. Compare it with the finish on bobbin No. 2 which is in perfect condition, after repeated cleanings on the New Type M Roving Bobbin Cleaner. This modern machine removes waste with jaws of a new design, so shaped they **cannot nick or mar the finish.**

The New Type M Roving Bobbin Cleaning Machine, with the labor-saving Bobbin Box Hoist, is the safest, most efficient, most economical method ever devised for removing waste from roving bobbins.



Works equally well on

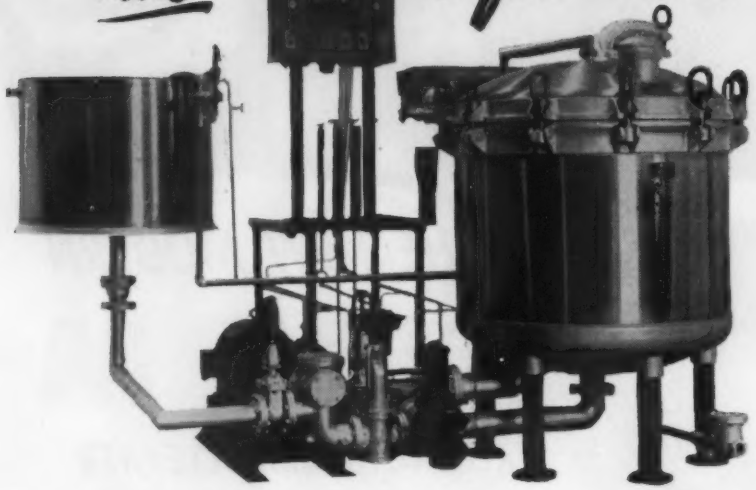
- COTTON
- SYNTHETICS
- WOOL

Consult Terrell for additional detailed information, or to survey your bobbin cleaning requirements.

THE Terrell

**MACHINE COMPANY, INCORPORATED CHARLOTTE, NORTH CAROLINA**

Plus Performance

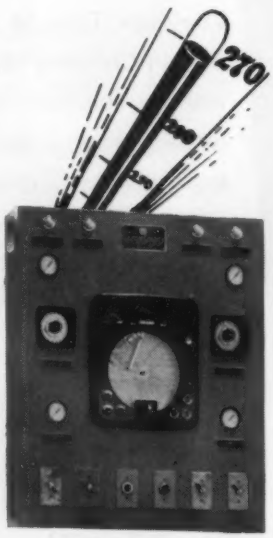


## OVER EXTREME TEMPERATURE RANGE

Gaston County developed the *first* dyeing machines to successfully meet the high pressure, high temperature requirements of synthetic yarns. Continuous improvements *plus* Gaston County's rugged construction still make them first choice of the industry.

## WIDER RANGE OF APPLICATION

These machines enable you to dye *any* fiber at any temperature . . . are available with closed add-dye tank and sampling device, in single or twin-kier set-ups.




## QUALITY-PROVED CONTROLS

As pioneers in automatically controlled dyeing equipment, you get the advantages of Gaston County's positive control from the loading to the unloading of the kiers—the Robot Dyemaster for matching colors quickly and economically.

**GASTON COUNTY** DYEING MACHINE CO.

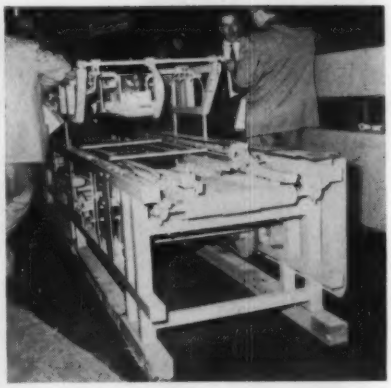
*Pioneers in Automatically* — *Controlled Dyeing Machinery*

STANLEY — NORTH CAROLINA

Gaston County Dyeing Machine Co.
Terminal Bldg., 68 Hudson St.
Hoboken, N. J., G. Lindner, Mgr.

The Rudel Machinery Co., Ltd.
14 St. James St. W., Montreal
137 Wellington St. W., Toronto


## Packaging — Continued



### To Seal Boxes

A machine for automatically sealing medium-size cardboard shipping boxes that might be used by mills that ship fine sewing thread, hosiery, athletic shorts, etc. was shown by Elliott Mfg. Co., Fresno, Calif. It was designed for handling grocery cases but can be used for any cases up to 18x24x16¼ ins. (B-39)

### Combination Sheeter-Gluer

►A machine that glues, cuts, and conveys cellophane with an intermittent movement to allow banding or wrapping operations during the stop cycle without removing the cut sheets from the conveyor was shown by Miller Wrapping and Sealing Machine Co., Chicago, Ill. In wrapping an underwear shirt, the first operator places the shirt diagonally on a cellophane sheet with three glued corners. The second operator overlaps the two corners of the sheet; and the third and fourth operators each fold one end of the wrapper to complete the corner-to-corner wrap. (B-40)

CONTINUED ON PAGE 196

* Pharmasol and
* Pharmol Red GNN

**Pharmasol and Pharmol Red GNBS**

The standard for bright reds fast to light washing and chlorine.

**Pharmasol and Pharmol Red RN**

Rich reds of extreme fastness to light washing and chlorine.

**Pharmasol and Pharmol Red 2BN**

Extremely bright bluish shades of good all-around fastness.

# Red

**Pharmol Red ITR**

Extreme fastness to light even in pinks with exceptional wet fastness.

*Reg. U. S. Pat. Off.

PHARMA CHEMICAL CORPORATION PLANTS: BAYONNE, N. J.

SOLE SELLING AGENTS FOR PHARMASOLS, PHARMOLS CARBIC-MOSS CORP. 451 WASHINGTON STREET, NEW YORK 13

CHARLOTTE • PROVIDENCE • PHILADELPHIA • COLUMBUS • LOS ANGELES • HAMILTON, ONTARIO

# Strengthen Your Ties

with

**NITROGEN DIVISION**

# CRYSTAL UREA

(CARBAMIDE)

When you tie up with the Nitrogen Division you get much more than the highest purity Crystal Urea . . .

a **With plants located at South Point, Ohio, and Omaha, Nebraska, you are always assured of adequate supply.**

b **The technical know-how of the world's largest producer of Urea is yours for the asking.**

c **With close quality control starting with the basic raw material—Ammonia—you are assured of uniform quality, shipment to shipment.**

d **Fast shipping service whether by carload or truckload out of our two producing plants or by L.C.L. from conveniently located stocks in principal cities is unsurpassed.**

Anhydrous Ammonia
Ammonia Liquor
Ammonium Sulfate
Sodium Nitrate
Methanol
Ethanolamines
Urea
Ethylene Oxide
U.F. Concentrate–85
Ethylene Glycols
Nitrogen Tetroxide
Formaldehyde
Nitrogen Solutions
Fertilizers & Feed Supplements

Nitrogen Division Crystal Urea is packed in 100-pound net moisture-proof, multiwall paper bags.

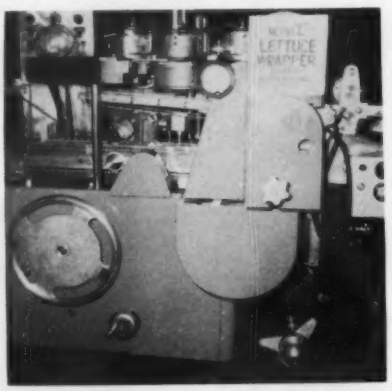
Call or write today for sample and product bulletin or Technical Service on your application problem.

**NITROGEN DIVISION**
ALLIED CHEMICAL & DYE CORPORATION
40 Rector Street, New York 6, N. Y.

Hopewell, Va. • Ironton, Ohio • Orange, Tex. • Omaha, Neb.

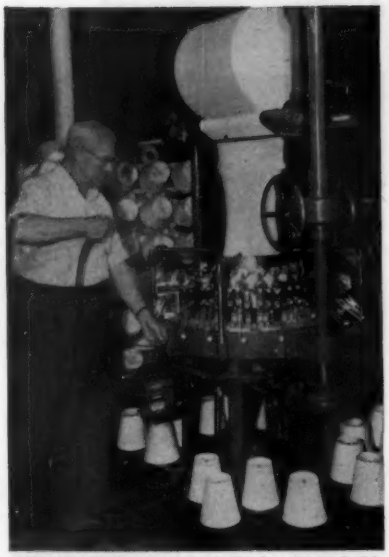
## For Packaging Bags

A device for opening and filling polyethylene, cellophane, etc. bags was demonstrated by Errich International Corp., New York, N. Y. To use the Speedy Bag Packager, the operator places a stack of bags in position in front of the loading guides and a stack of the items to be packaged near the back of the guides. Only two motions are required to load a bag: (1) with a thumb, the operator frees a bag from the spring weight holding it so that air blowing from the device into the bag fully opens the bag; (2) the operator slides the product through the guides into the bag. **(B-41)**

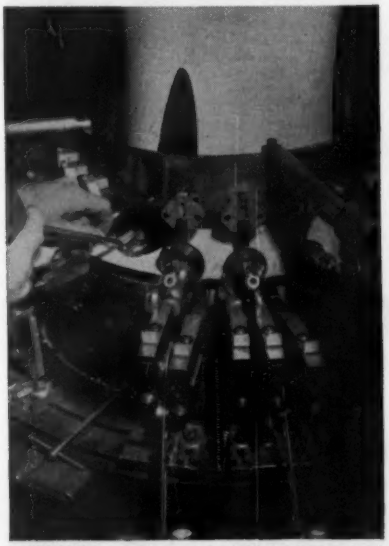


## For Wrapping Sales Yarn

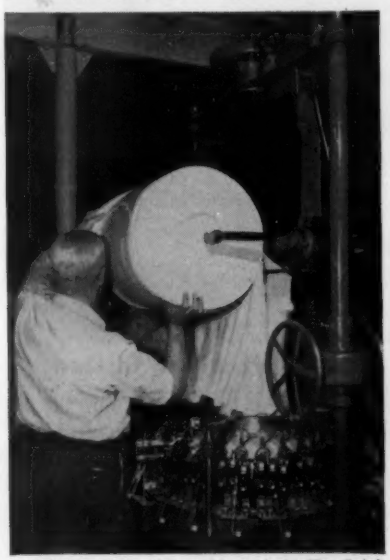
A machine that wraps round, disk-shaped, oblong, oval, square, or irregular-shaped items that are hard, soft, or sticky was shown by Wrap-King Corp., Holyoke, Mass. Different models are available to wrap packages at a choice of ranges varying from a low of 25 per minute to a high of 140 per minute. One machine of this type could do all the wrapping of coned yarn required by most sales-yarn mills. The machine here is wrapping heads of lettuce. **(B-42)**



CLEANING with the air hose removes lint four times each shift. There are 20 feeds arranged around the 20-in.-dia. cylinder.



INSIDE BURRS have an oil reservoir that is filled at the start of each shift. A space is left between the front feeds for stitching on.



FABRIC ROLL, weighing 65 lbs., is 4 hrs. production. The roll shaft is retained by a rail that swings down for easy doffing.

## *At Robert Reis & Co.—*

# *One SPRING-NEEDLE Machine Knits 130 Lbs. in 8 Hrs.*

**New advancements in spring-needle knitting include:**

- **A cylinder that rotates on roller bearings**
- **Stop motions that operate on cloth wheels**
- **Feed units that allow a feed for each diametrical inch**

**By JAMES H. BLORE,** Assistant Editor, TEXTILE WORLD

BY INSTALLING new spring-needle knitting machines in the Ford Mfg. Co. plant, Waterford, N. Y., Robert Reis & Co. is retaining high quality but speeding production of its underwear fabrics. The new machines, built by Precision Knitting Machine Co., rotate at high speed and have more than the usual feeds arranged around the cylinder.

### Cylinder Speed Is 90 Rpm.

The first machine installed was a 28-g[illegible] machine. This mon[illegible] of [illegible] ch[illegible]

th[illegible] up[illegible] unc[illegible] com[illegible] is [illegible] inc[illegible]

co[illegible] us[illegible] or[illegible] ab[illegible]

cl[illegible]

t[illegible] t[illegible] e[illegible]

cleane[illegible] side burr receives a shot of stainless needle oil. Each burr has an oil reservoir that keeps the burrs lubricated for 8 hrs.

Only one burr is used behind each feed; this one is a combination lander and cast-off burr. The burr is sunk in a bracket so that the cloth is lifted clear of a burr when the fabric is stitched on the needles. Individual feeds are then cleaned with the air hose while the yarn is held taut with the left hand. Each outside burr reservoir is then filled with stainless needle oil.

The yarns are then checked for correct threading, and the machine is turned over slowly. A hand wheel, [illegible] be turned in only one [illegible]

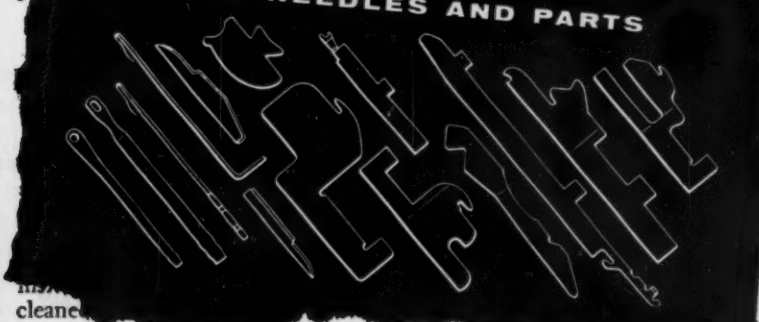
The st[illegible] when fabric passes under the wheel, and the machine won't start if there is no fabric over the feeler. So far, press-


Ives Helped!

Once again IVES precision-made needles, specially hardened and tempered from more durable vanadium steel, made headlines possible. Your machines will produce better fabric, too, at lower cost when equipped with IVES needles and parts for circular and tricot knitting machines. Let IVES help YOU increase profits. Write or wire . . .

THE LOYAL T. IVES COMPANY, INC.
NEW BRUNSWICK, N. J.

IVES NEEDLES AND PARTS



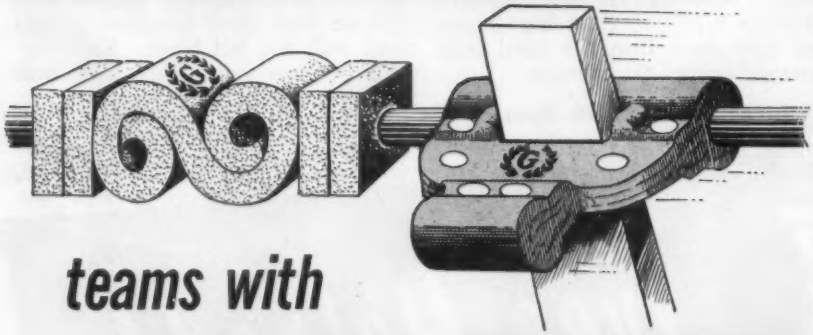



For more information, write direct or use Reader-Service post card.

absorb "SOCK"

in loom "SHOCK ZONE"

NEW GARLAND BUNTER



teams with

GARLAND LOOM PICKER

FOR A WINNING "ONE-TWO" COMBINATION

The NEW GARLAND SPONGE LEATHER BUNTER, never before advertised, has already received sensational acclaim. To pretest this most modern Bunter, Garland sent samples to selected mills. Trial orders soon resulted in repeat orders for hundreds. Here's proof that there's no finer Bunter available. "Takes" shock better. Lasts longer. Is more economical. Now available for the first time in unlimited quantities. See for yourself by writing today for complete information.

Garland's long-time favorite Genuine Rawhide Loom Picker adapts perfectly to the Sponge Leather Bunter. Gives better service with reinforced stick hole . . . stronger picker head . . . pressure molding . . . improved spindle hole . . . toughest material available.

Garland MANUFACTURING COMPANY

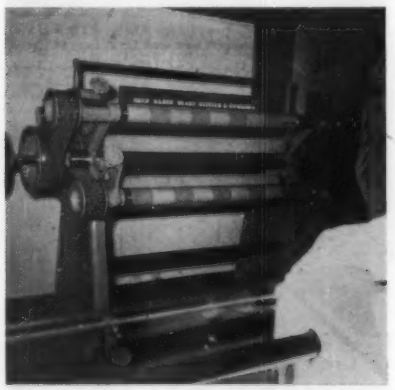
50 WATER ST • SACO • MAINE

## Auxiliary Equipment

CONTINUED FROM PAGE 130

### Package Labelers

Labeling machines for heat-sealing labels on packages wrapped by automatic machines were shown by Oliver Machinery Co., Grand Rapids, Mich. Two models—one for use with intermittent-feed wrapping machines and one for continuous-feed wrapping machines—were shown. **(B-43)**



### Sheet Cutter and Slitter

A machine for cutting and slitting wrapping materials for individual-item packaging was shown by Charles Beck Machine Corp., Philadelphia, Pa. Mill users of the machine range from tufted-rug mills to hosiery and underwear mills. **(B-44)**

CONTINUED ON PAGE 200

# WHEN WERE YOUR CHLORINE FACILITIES LAST EXAMINED?

It is a wise policy to have your chlorine equipment and facilities examined every year by a Columbia-Southern engineer.

Our Technical Staff will review this phase of your operation for efficiency and safety. They will consult with any of your employees on the proper methods of handling and unloading chlorine and review safety practices and first aid measures.

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## To Make Your Own Tape

For mills that use large quantities of cellophane tape, the Tape-maker by Williamson Adhesives, Inc., Skokie, Ill., is said to offer money-saving possibilities. To use the machine, you buy rolls of clear cellophane (which is cheaper than cellophane tape) and put on the adhesive with the machine. The machine serves as a tape dispenser; so to use it, you have to use the tape in one location. **(B-45)**

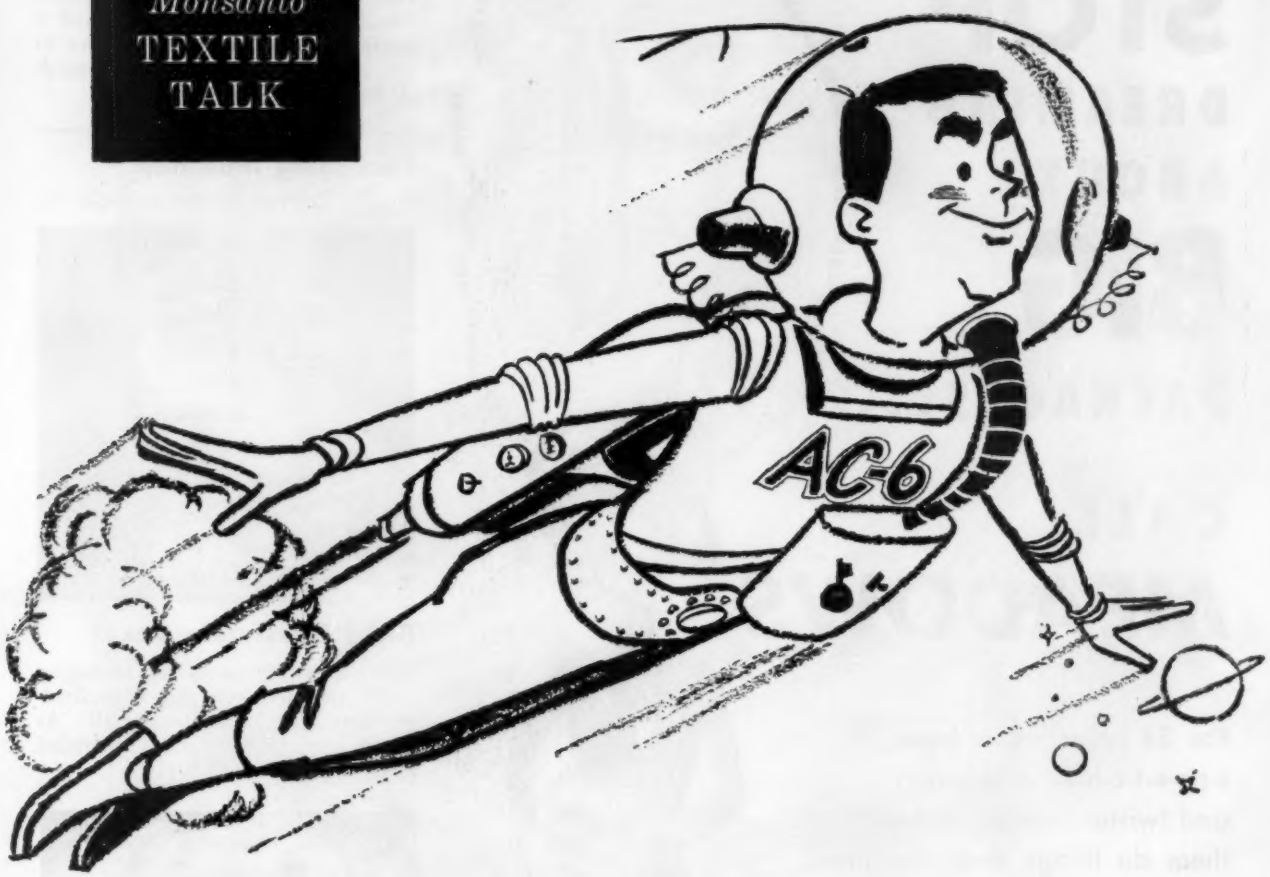
## Label Dispenser

A dispenser for separating and moistening labels, consisting of a holding tray and a moistening roller, was shown by Dispens-A-Label Devices, Pittsburgh, Pa. The dispenser is available in several sizes. **(B-46)**

▶ Blankets, towels, and other textiles were shown packaged in attractive set-up boxes by National Box Mfg. Association, Philadelphia, Pa. The boxes had unusual design, engineered for both sales appeal and strength. **(B-47)**

▶ Labels for packaged men's hose and dish cloths were shown by Marathon Corp., Menasha, Wis. The hose label contains information about the product, the size, and fiber content. **(B-48)**

*Monsanto*
TEXTILE
TALK

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**AC-6 brings you all these benefits at low product cost.**

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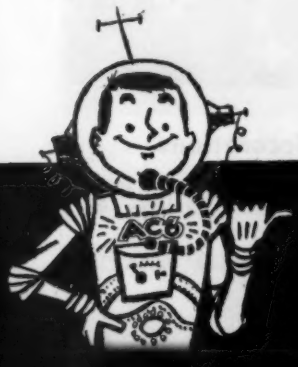
**Mail coupon today for technical bulletin and sample bottle of Catalyst AC-6.**

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Please send me, without obligation, the technical bulletin on new Catalyst, AC-6, and 8 oz. sample bottle.

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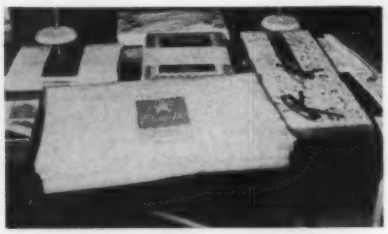
▶ Several models of gummed-tape dispensers were shown by Lipton Mfg. Co., Inc., New York, N. Y. The Lipton Senior, a moistening machine, handles tape up to 3 ins. wide and is equipped with a measuring device to gauge the length of tape dispensed. **(B-49)**

## Packaging Materials

CONTINUED FROM PAGE 131

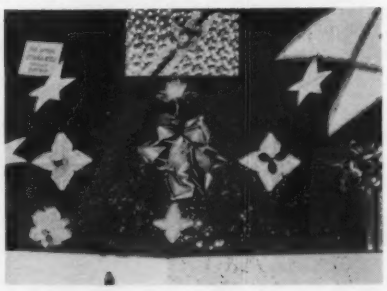
### Rigid Polystyrene Boxes

Rigid display boxes for packaging textile products were shown by Bradley Associates, Inc., Chicago, Ill. As shown here, textile products included racks of bow ties. **(B-50)**



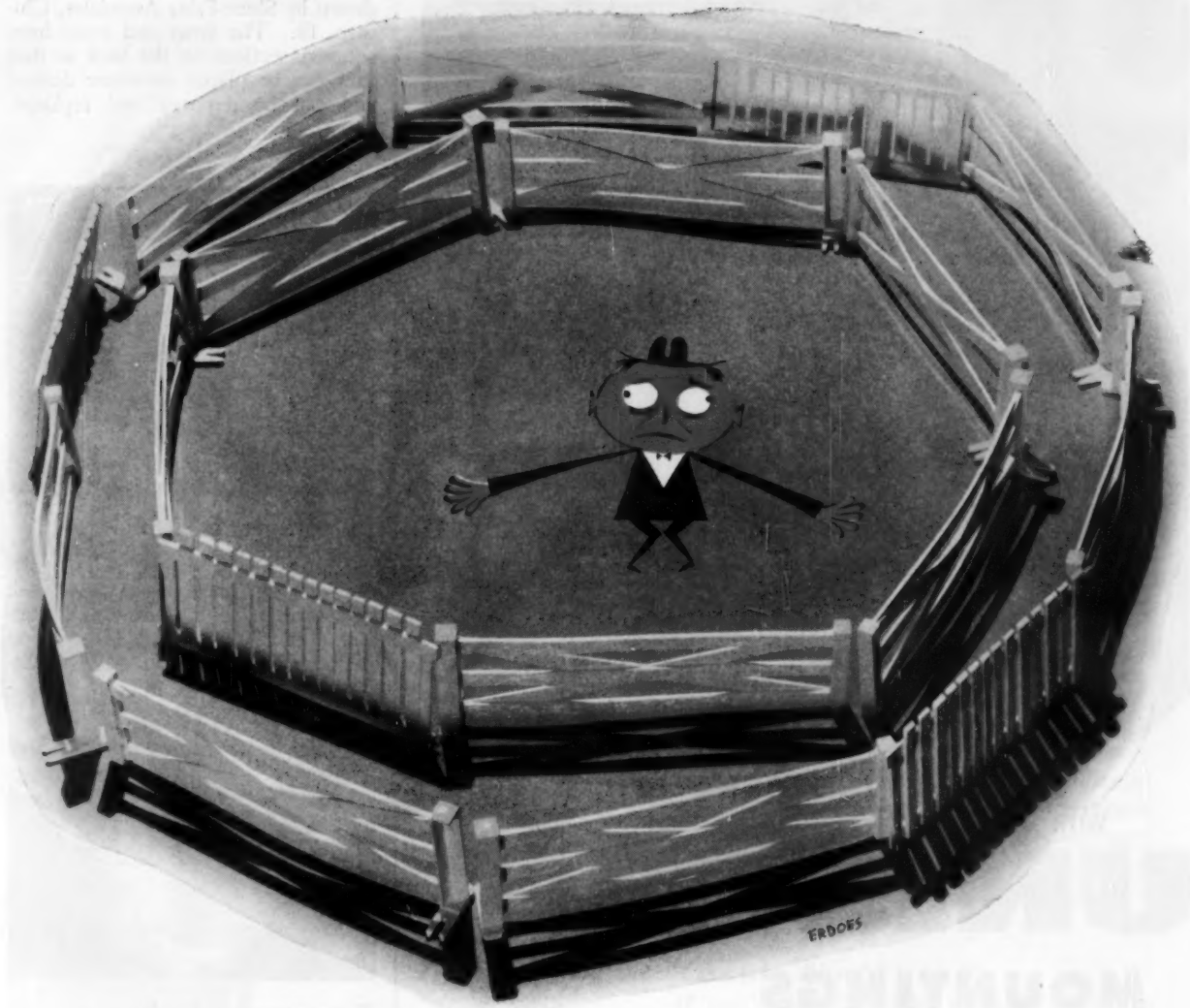
### Pliofilm and Vitafilm

Durable, clear packaging material called Pliofilm and the relatively new Vitafilm were shown by Goodyear Tire & Rubber Co., Inc., Akron, Ohio. Packaged textile products shown included blankets, sheets, towel sets, and shirts. **(B-51)**



### Package Decorations

Decorative bows and tapes for use on packaged textile products were

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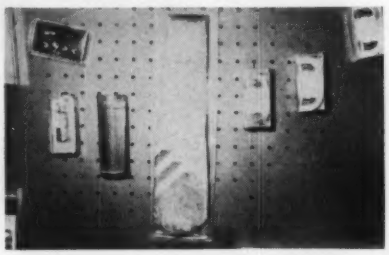
shown by Shear-Prinz Associates, Chicago, Ill. The bows and tapes have adhesive sections on the back so that they can be placed anywhere desired and can be removed and replaced. **(B-52)**

### Polyethylene Film

Plastic film called Renylon polyethylene for packaging textile products was shown by Reynolds Metals Co., Plastics Div., Gary, Ind. Shirts packaged with Renylon were on display. **(B-53)**



### Transparent Packages

Packages made from polystyrene and acetate butyrate were shown by Plastofilm, Inc., Wheaton, Ill. The packages are vacuum-formed rigid containers that allow the consumer to see the contents. **(B-54)**

### Vinyl Film

Clopane, a transparent vinyl film, was shown as a wrapping for sheets

# It's almost magic, the way Morton can come up with any kind of salt you need in a hurry!

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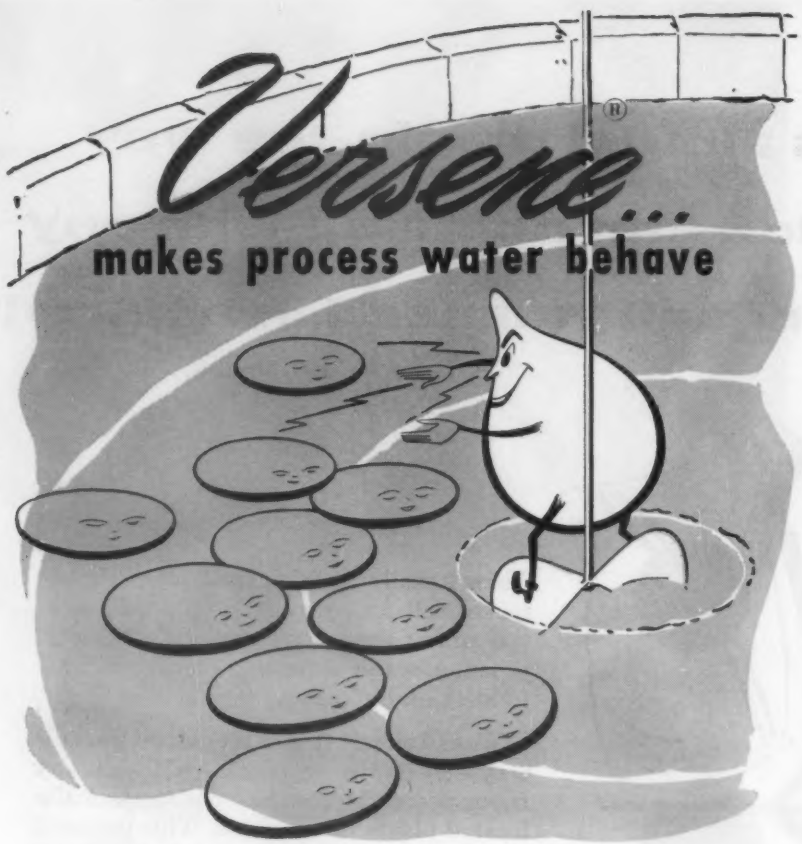


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Few textile plants have access to water so soft that it doesn't interfere with washing, scouring, bleaching, dyeing, finishing or other wet processing operations. This is why all raw process water must be regarded as an *active chemical* until proven otherwise. Versene makes the active ingredients in process water behave and become inert. It completely and permanently softens water without forming precipitates by inactivating any calcium, magnesium, iron, copper, lead or other metal contaminants which may be present.

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and pillowcases, blankets, hosiery, and sweaters. Clopane is printable by standard commercial methods and can be processed by high-speed automatic machinery. It is resistant to chemicals generally and to yellowing and sunlight. **(B-55)**

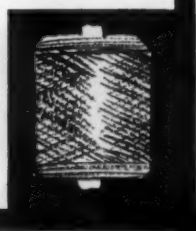
## Textile Products Packaged

Packaged textile products were shown by Dobeckmun Co., Cleveland, Ohio, to illustrate the variety of packaging materials it has available. Packages shown included sheets, undershirts, pillowcases, and table place settings. **(B-56)**

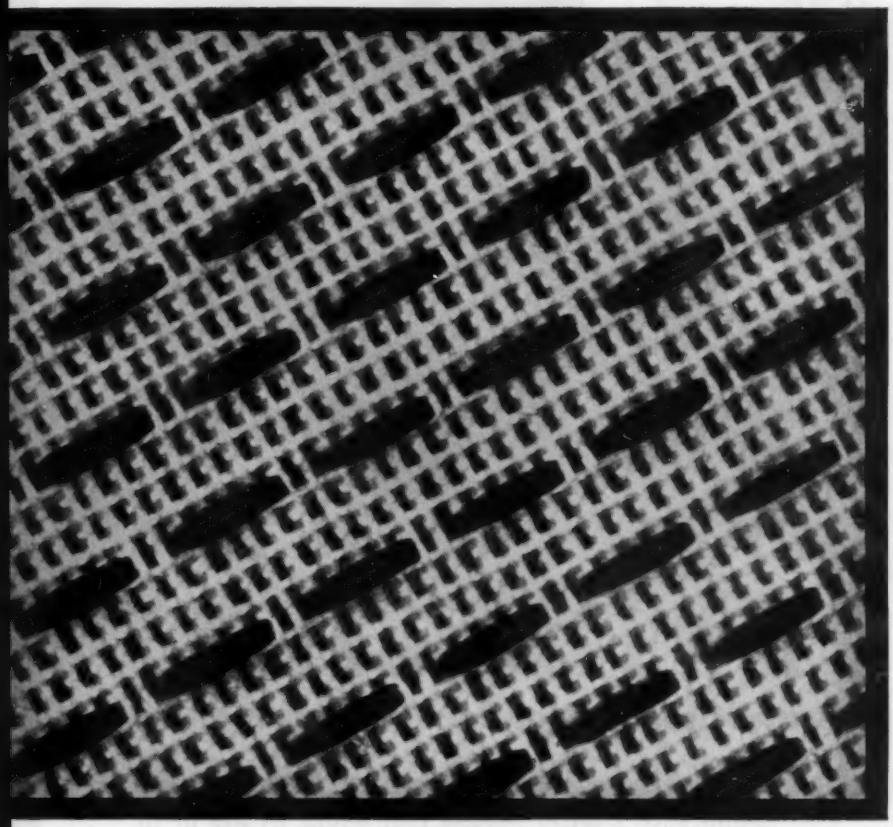
## Plastic Bags

Polyethylene bags used for packaging textile items were shown by Chase Bag Co., Chicago, Ill. Chase makes the bag and prints the required labeling information. A bagged dish towel was exhibited. **(B-57)**

CONTINUED ON PAGE 208



# The Close-up of Construction



An original fabric using B & C yarns magnified 100X.

**GUARANTEE**

*The Quality of Boger & Crawford Yarn is guaranteed — the highest tribute we can pay it!*

*Signed*

*Fredericka Boger*

## The Yarn that makes Fine Fabrics

You get fine fabrics every time with BOGER & CRAWFORD Bleached Dyed and Mercerized yarns. That is because you get quality yarns.

Illustrated is an unretouched photograph of a new fabric made with B & C yarn. Judge for yourself the distinctiveness of the fabric. Note the appealing close-up of construction.

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**Easiest to Use...** Threads 1", 1¼", 1½" and 2" pipe and conduit with 1 set of chasers that adjust to size in 10 seconds. Mistake-proof self-centering workholder sets instantly to size. Threader can't jam—it kicks out automatically when standard length thread is cut. Unbeatable speed, least work.

**Perfect Threads...** 65R cuts beautiful threads—and you find the factory test sample in your new die stock to prove it. No other threader gives you as much for your money.

**Ask to see the 65R at your Supply House. Try it, buy it—it's a bargain in satisfaction.**

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RIDGID
Work-Saver Pipe Tools


## Packaging Materials Continued

### Cellophane Wrapping

Attractively wrapped sweaters, hosiery, and fabrics were shown by Sylvania Div., American Viscose Corp., Philadelphia, Pa. The products and the packages shown were all made in Europe. (B-58)

### Converters' Designs

Several package designs for textile products were shown by Milprint, Inc., Milwaukee, Wis. Some of the packages on display were sheets, pillowcases, and crib sheets. (B-59)

---

## Cutting, Seaming, etc.

CONTINUED FROM PAGE 116

### Electronic Labeler

A machine to attach adhesive-processed labels electronically to fabrics without stitching was shown by Gins-

DOW

# . . . however you buy it, there's *no illusion* to the uniformity of DOW CAUSTIC SODA

Sure—take a second look. The only *illusion* you see is the circles surrounding these samples of Dow's uniform caustic flake. Standard, ground or fines—each form is *uniform in size and quality.*

Dealing with Dow reduces all your caustic problems to pretty small size. You get the benefits of Dow's *multiplant production facilities* . . . of Dow's flexible, far-flung *distribution network* . . . of Dow's experienced, helpful *technical service* people, who can often point out surprising *savings.*

Hundreds of industrial caustic users, large and small, depend on Dow to fill their needs. Why not try this simple formula for complete caustic soda satisfaction? There's no illusion . . . or disillusion . . . when you "Get it from Dow". THE DOW CHEMICAL COMPANY, Midland, Michigan.

*you can depend on DOW CHEMICALS* DOW

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Performance-proven for automatic, high speed production of interlock and jersey garments

more and more, the choice of the most successful manufacturers of mens' and womens' knitted outerwear

knitters' choice, too, because no other circular fully automatic knitting machines equal OGA and OTA for simplicity, ease of operation and dependable production of first quality merchandise.

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Cylinder and Dial Sections, turning cams, stitch control, 3 color yarn changer, dial cam operating levers.

• Your safest way to judge knitting equipment is to find out what users say about production and maintenance costs.

Today, ORDNANCE GAUGE EQUIPMENT *outsells all comparable machinery by a substantial margin!*

Comparison proves that ORDNANCE GAUGE machines make possible 20% or more increased production with trouble-free operation and simplicity of operational adjustments. Write at once for catalog and further information.

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PRODUCTIMETERS SINCE 1879 Count Everything

berg Machine Co., Inc., New York, N. Y.

The device, known as Electro-Sealer, can be used on any type of fabric; and it is claimed that an unskilled operator can label over 400 doz. shirts a day. The shirts do not have to be unfolded. (A-123)

### Button-Sewing Machine

A machine for sewing metal, glass, plastic, or cloth buttons to garments was shown by Chandler Machine Co., Ayer, Mass.

Interchangeable clamps and cams make it possible to change buttons for various garments quickly. The machine operates at 1,700 rpm., and a production of 7,900 to 9,000 buttons per day is possible. (A-124)

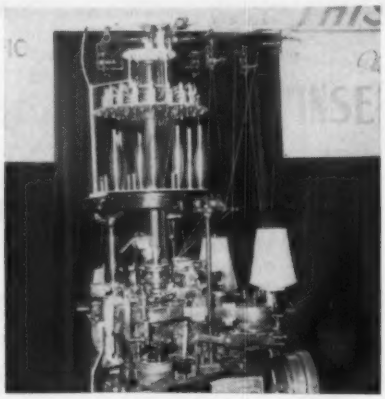
### Sewing-Machine Stand

A sewing-machine stand with a solid-maple table board cut so that an insert can be slid and quickly fastened into the cut-out section was shown by American Safety Table Co., Inc., New York, N. Y. Any type of sewing machine can be mounted on the insert.

An attached motor gives additional flexibility. The motor can be positioned horizontally to fit any type of machine. (A-125)

## Hosiery

CONTINUED FROM PAGE 107



### Hosiery Stop Motions

Stop motions, fitted to a Banner wrap machine, covering yarn breakages, needle faults, and wrap yarn breaks were displayed by Edley Machine Co., High Point, N. C.

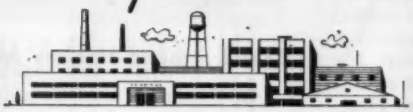
One stop motion operated for each yarn in the leg and foot, and two stop motions protected the rubber yarn. (A-126)

CONTINUED ON PAGE 212

# STERLING TNA·5

**New Textile Dyeing Reagent**

*6 Ways Better in Your Mill!*



**1.** Efficient, economical replacement, pound for pound, for anhydrous sodium sulphate in a neutral dye bath.

**2.** Neutral . . . readily soluble in either cold or hot water.

**3.** Can be used in either the dry granular form or automatically converted to fully-saturated brine with the TNA-5 Dissolver.

**4.** Eliminates dye precipitation, produces a good color yield, level shades and a soft finish.

**5.** Can be used in a neutral dye bath when dyeing cotton, rayon, wool, or any blend of these fibers . . . in the staple, yarn or piece goods.

**6.** Especially effective with Direct or Naphthol dyes, it produces excellent crock fastness and clear, brilliant colors.

## Finer Dyeing at Lower Costs

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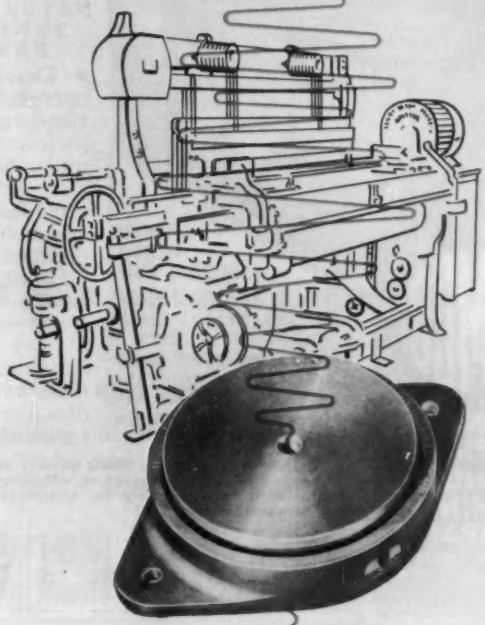
**ENGINEERING OFFICES:** Atlanta • Buffalo • Chicago

**Order Sterling TNA-5 today! In 100-lb. bags or bulk.**

## Why live with loom VIBRATION?



The unique deflection principle of Silentbloc rubber-in-metal mounts can make loom vibration a thing of the past. Just four units will convert the noisiest loom ever made into a smooth-running, exceptionally quiet machine.

For catalog and details of our free trial plan on Silentbloc rolling joint mounts write to The General Tire & Rubber Company, Industrial Products Division, **Dpt. G-1,** Wabash, Indiana.

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NEW mobile, multi-purpose IMMERSION TANK

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MAKES MATERIAL HANDLING EASIER

Adjustable loading height facilitates feeding from or to keirs and other equipment; can be operated singly or in tandem, with liquor-circulating connection between tanks.

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• Records indicate these tanks quickly save their cost many times—permanently increase operating efficiency. Definitely worth investigating. Write immediately for complete details and no-obligation mill demonstration offer!

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Wherever starches are used—
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WARP SIZING—The wide variety of viscosities afforded by PENFORD GUMS permits their use in:

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To assist textile finishers and processors Penick & Ford's Technical Sales Service Engineers offer their services. They will be glad to advise you as to which PENFORD GUMS are the best for your particular requirements and equipment. PENICK & FORD, LTD., INC., 420 Lexington Avenue, New York 17, N. Y.; 806 Bona Allen Building, Atlanta, Georgia; Cedar Rapids, Iowa.

U. S. Patent Nos: 2,516,632; 2,516,633; 2,516,634

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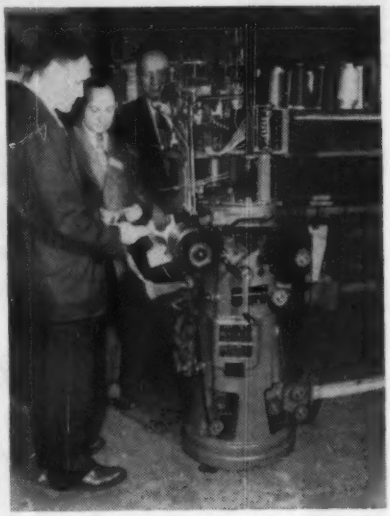
Penford Gums

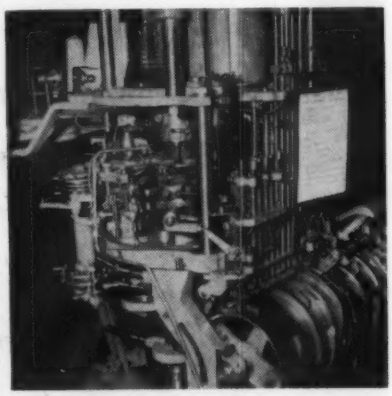

## Hosiery Continued



### Men's Ribbed-Hosiery Machine

An Italian double-cylinder men's hosiery machine, featured by Tricoma, Inc., New York, N. Y., has a jacquard attachment to produce men's patterned stretch socks.

The machine has an elastic feed, and the changes are made from hollow tubes filled with steel balls. The machine has a vertical clutch assembly and two feeds. The 48-gauge machine has 200 needles on a 3½-in. cylinder. **(A-127)**

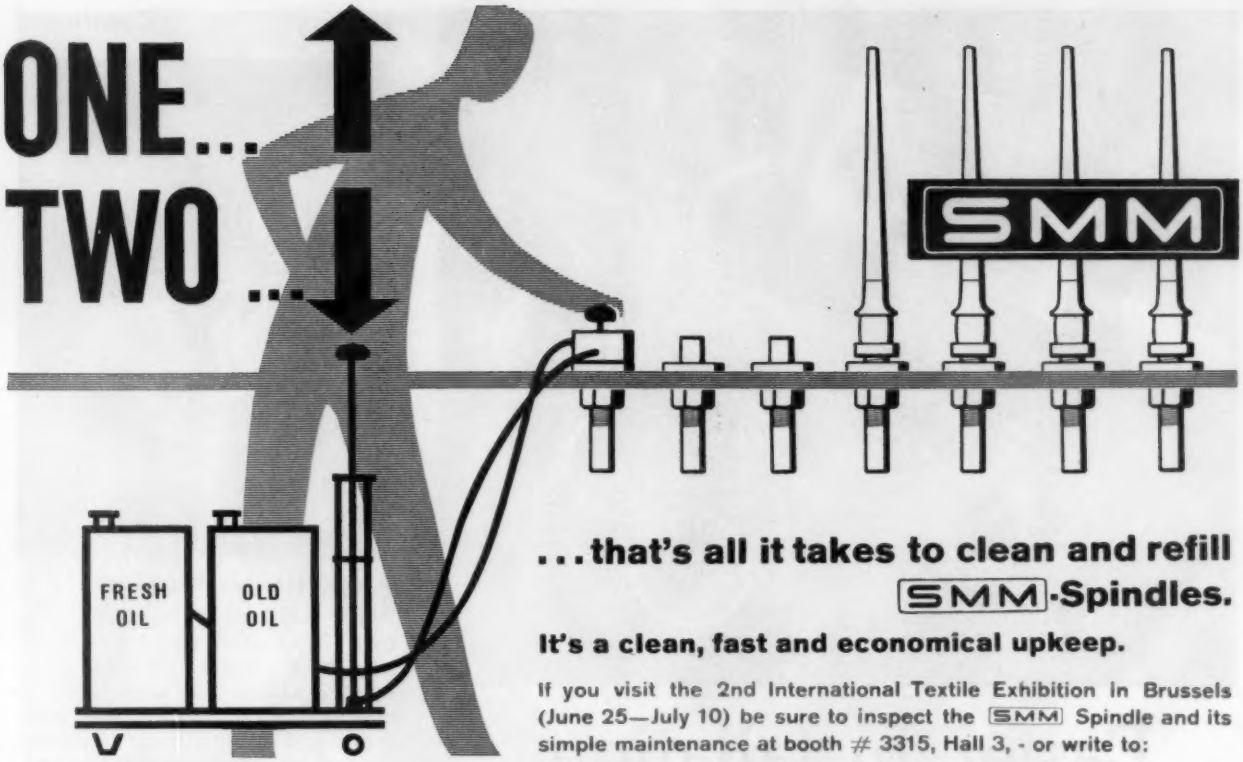


### Komet Hosiery Machine

A Komet hosiery machine, shown by Scott & Williams, Inc., Laconia, N. H., was a links-links type with improved racking and a long drum for extra attachments. The new-type racking attachment gives better timing control and works directly from the front drum.

The machine has a press-off drawthread attachment and an air blast to open the latches. A cam on the back gear releases the stitch-cam cable to provide extra-long slack courses for stretch socks. **(A-128)**

CONTINUED ON PAGE 214

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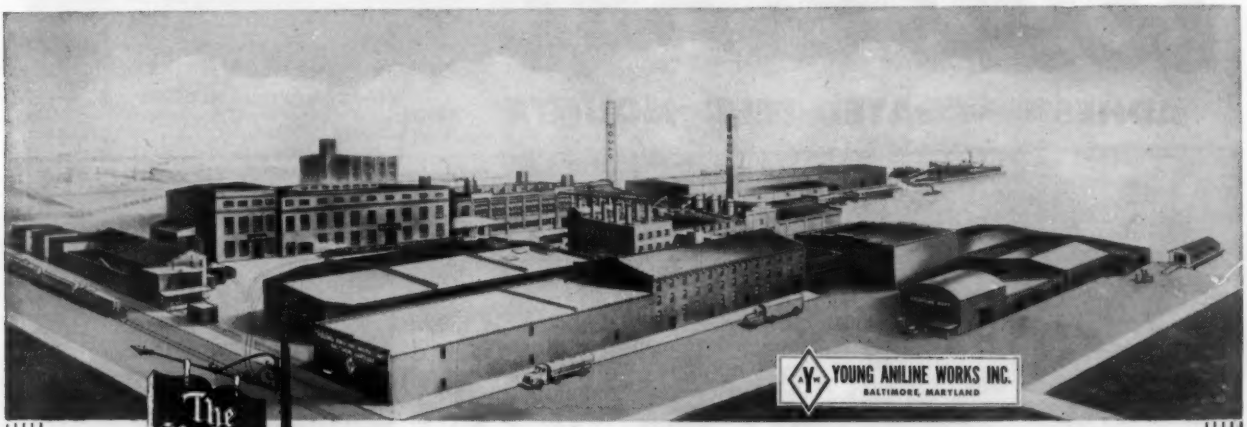


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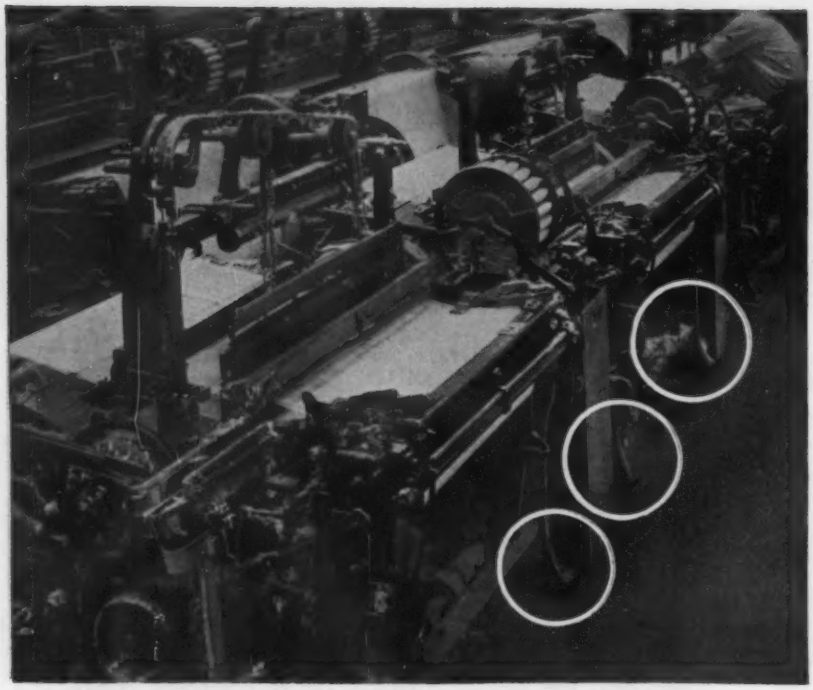

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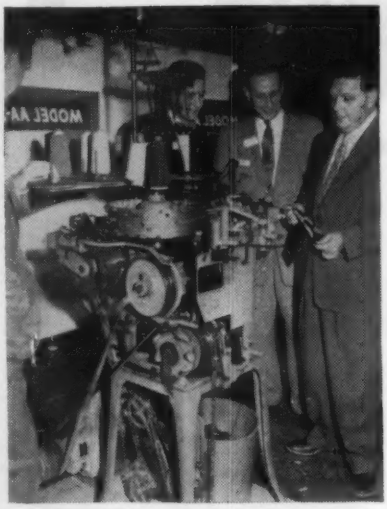


**Argyle Hosiery Machine**

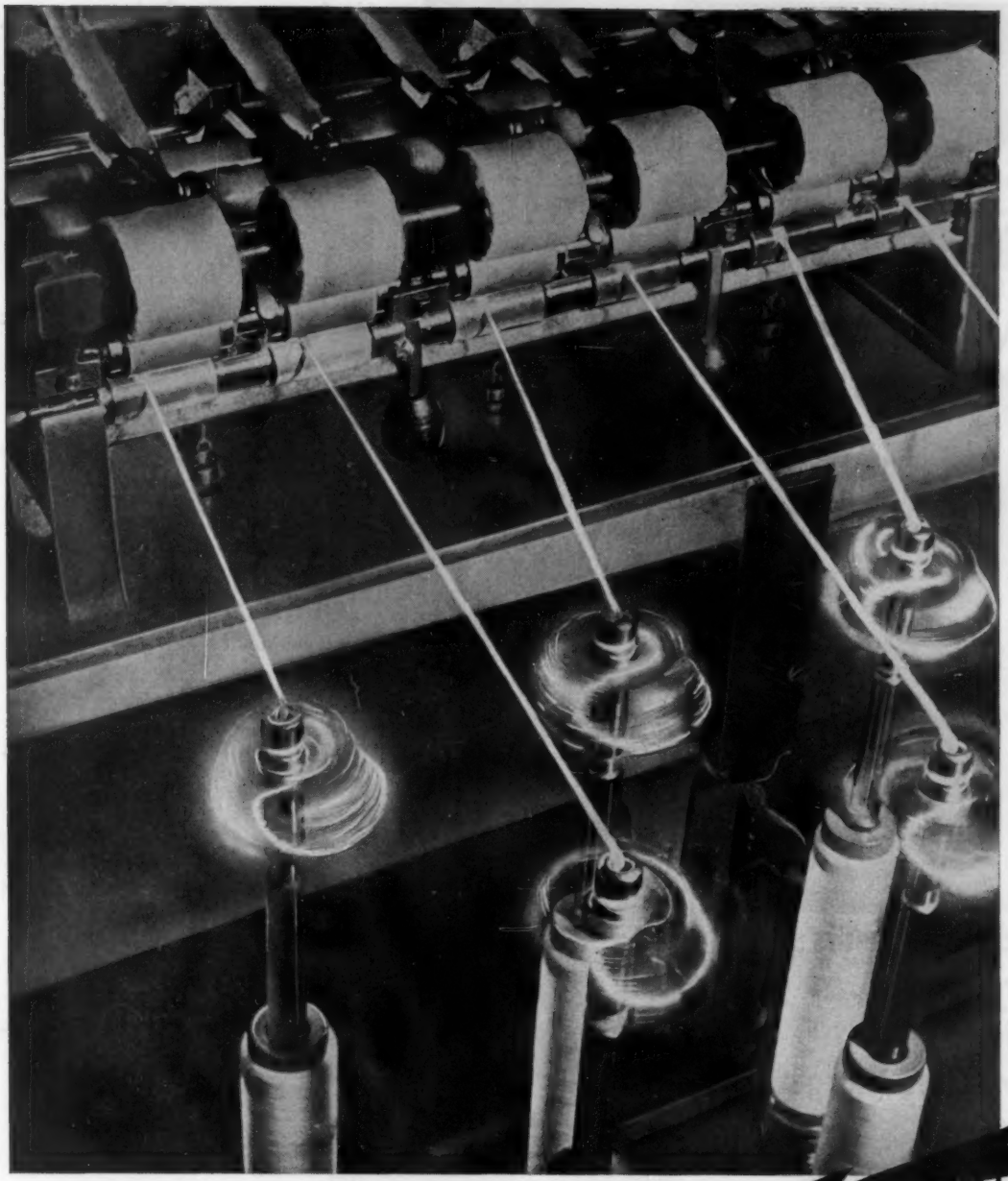
The AA-2 argyle machine, shown by H. E. Crawford Co., Inc., Kernersville, N. C., was a 160 x 3¾-in. 36-gauge machine. The single-feed machine is equipped with six yarn fingers and an air-blast attachment to prevent the trailing ends knitting in the sock. Selection of the needles is done from pickers, and the production is 24 pairs of men's socks in 8 hrs.

An argyle machine that had been converted from a spiral machine was also demonstrated and was knitting 100/2 dyed Helanca. The pattern drum is retained on the original machine for needle selection. **(A-129)**

**Automatic Hosiery Machine**

An automatic rib-top hosiery machine with a 10-end selector knot tyer was shown by Fidelity Machine Co., Inc., Philadelphia, Pa. The machine has rocking dial needles that transfer stitches to the cylinder needles. The knot tyer is situated above the yarn stand.

A Micro switch, working from the pattern chain, slows down the machine at yarn changes. The chain operates on the machine side. The machine has an individual drive and electronic speed control from 50 to 250 rpm. **(A-130)**



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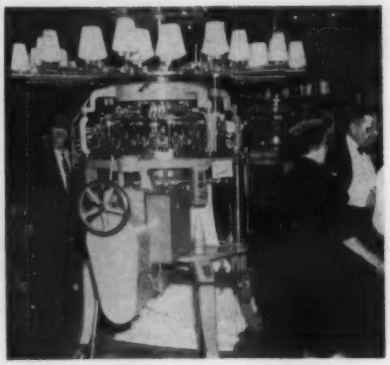
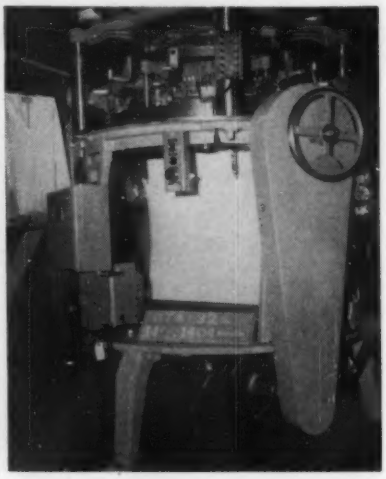
## Underwear & Outerwear

CONTINUED FROM PAGE 110



### Interlock Sweater Machine

The 12-feed TAI machine, shown by Jacquard Knitting Machine Co., Inc., Philadelphia, Pa., was a 16½-cut machine, which produced sweater lengths with 1x1 rib cuff and interlock bodies. The yarn knitted was 1/33s high-bulk Orlon. **(A-131)**



### Sweater Machine

Warner electric clutches on OTA machines shown by Ordnance Gauge Co., Philadelphia, Pa., have an electric control that simplifies the speed arrangement. A Micro switch operates from the counter chain to control the speed of the motor through a relay box.

The 14-cut 32-in.-dia. machine on display was knitting 13s high-bulk Orlon. **(A-132)**

### Fancy-Trim Machine

Model DRL, a 60-in. 12-cut machine for knitting flat trims, was shown by Dubied Machinery Co., New York, N. Y. The high and low

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## THAT CAN BE THROWN FOR

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Out of Chemstrand research comes a new and dramatic advance in nylon . . . *a 15 denier 3 filament yarn for throwing!*
The advantages in appearance and performance are particularly important to hosiery and tricot knitters. Here's why:

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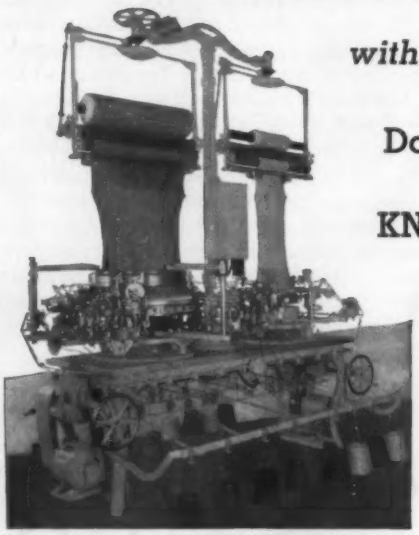

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butts have individual selection on the back and front beds, and the stitches can be transferred from back to front and front to back.

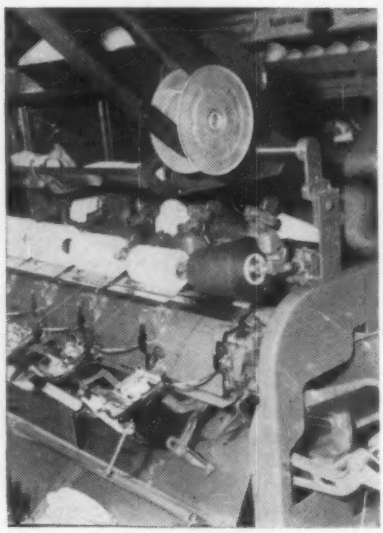
The machine produces eight-lock fabric and racks over six needles. There are two speeds. The motor slows down to transfer the stitches and for the slack course. The machine is double lock. **(A-133)**

### Press-Off Detectors

Press-off detectors for Leighton and Jacquard machines were shown by Stop-Motion Devices Corp., Brooklyn, N. Y. The detectors for the Leighton machine are mounted on each leg of the machine. Contact is made on the cylinder, just below the needles, by the detector when a hole appears in the cloth. The Sentinal detector on Ordnance Gauge and Jacquard machines are connected to the indicating panel to rapidly show the fault. An eccentric ball rests on the fabric under the dial for easy adjustment. **(A-134)**

## YARN PREPARATION

CONTINUED FROM PAGE 112



### Cone Winder

A Model 102 winder equipped for either skein winding (from swifts or runner reels) and backwinding (for double waxing) was shown by Foster Machine Co., Westfield, Mass. A two-speed motor, controlled by a high-low switch, gives the proper speed for each operation. Skein winding is done at 100 to 125 yds. per min.; backwinding at 350 to 400 yds. per min. **(A-135)**

CONTINUED ON PAGE 220

# Fashion Moves To Prints

**and leading textile printers use Jacques Wolf Printing Gums**

**Superclear Gum All Viscosities**

Used for machine and screen printing of all types of textile fabrics. Produces bright prints with sharp outlines and very fine detail.

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Made by a patented process. Used with Acid, Direct or Insoluble Azo Dyestuffs for screen printing, this gum gives exceptionally clear, sharp prints.

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**Screen Gum W-1141-B**

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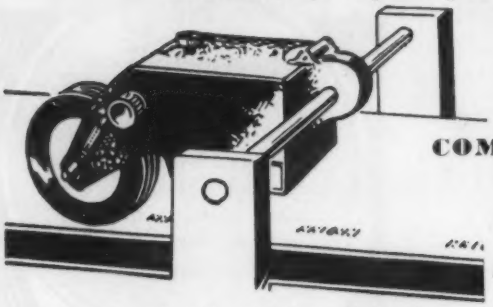

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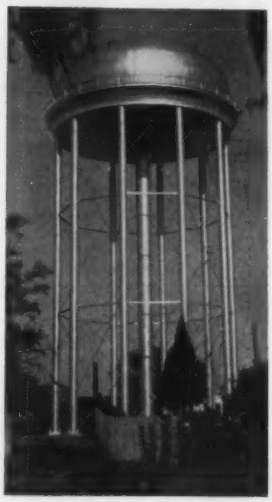

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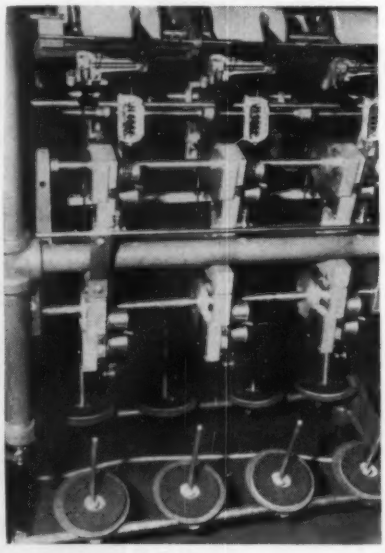
## Yarn Preparation Continued

### Warper Creel

A warper creel with a drop-wire assembly quickly adjustable for drawing in broken yarn ends was demonstrated by Edward J. McBride Co., Inc., Philadelphia, Pa. When a warp end breaks, the warper operator turns a knob to raise the drop wires. With the drop wires in the raised position, the operator can use both hands and a hook to draw in the broken end.

If the operator fails to reset the drop-wire assembly after the warp end is drawn in, a small light at the assembly blinks to show the operator the error. **(A-136)**



### Winder and Bulking Units

It takes 1 hr. at the most to change a 50-spindle machine from Taslan to Ban-Lon on the winder shown by U. S. Textile Machine Co., Scranton, Pa. The process units clamp into

# The long awaited yarn

# Lurex® MM

## (made with Mylar* polyester film)

## now perfected

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Lurex MM is a special purpose metallic yarn—an advanced, improved version of Lurex made by an entirely new process, on which The Dobeckmun Company has been allowed patent coverage.

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- ❖ ❖ resistance to high temperature in dyeing, finishing and laundering
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- ❖ ❖ substantially increases yield per pound of yarn
- ❖ ❖ permits successful laundering at any washing temperature
- ❖ ❖ may be ironed at any temperature favorable to the fabric with which it is woven
- ❖ ❖ inherent strength, providing adaptability to regular mill equipment for woven or knitted fabrics
- ❖ ❖ adaptability with piece-dye nylons, widening the color range available for automotive and decorative fabrics
- ❖ ❖ offers greatly increased latitude in certain highly specialized dyeing and finishing situations

Lurex MM opens up exceptional possibilities in the development of special yarns for special purposes.

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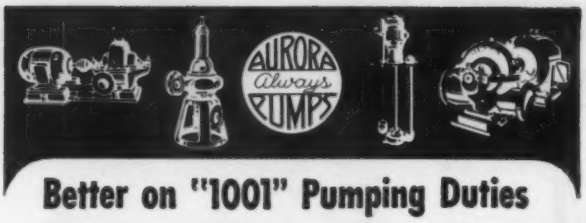


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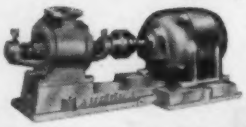
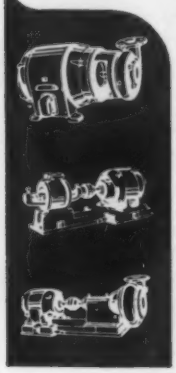


Heads to 500 Ft.



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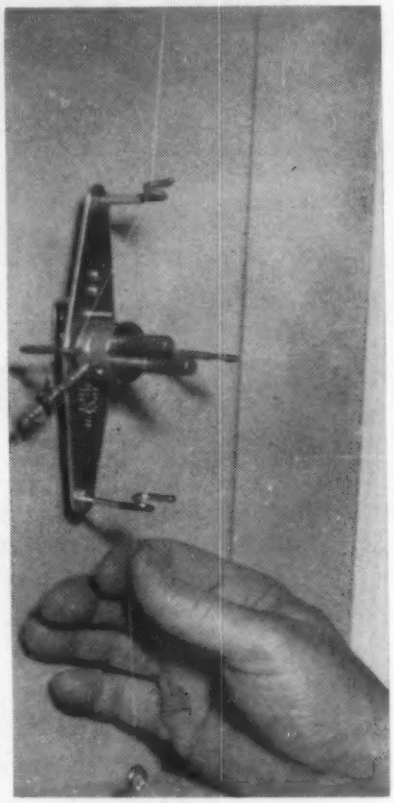
place, and auxiliary equipment such as the heat supply for Ban-Lon is built into the machine; a two- or-three-roll system is available for Taslan.

The feed roll is controlled by an adjustable-speed drive, and the take-up operates at a standard 150 yds. per min. **(A-137)**



### Nylon Tension Control

A constant-tension device for high-speed nylon redrawing was shown by Heany Industrial Ceramic Corp., New Haven, Conn. The device utilizes the unevenness in yarn take-off to automatically and mechanically hold the tension desired.

Basic tension is attained by setting two Heanium posts in relation to the distance of two adjustable weights. When tension increases, the movable assembly turns clockwise and reduces the exposed surfaces of the two posts over which the yarn passes. When the tension drops, the assembly moves to its original position, and normal tension is resumed. **(A-138)**

### Lightweight Bobbin

An aluminum take-up bobbin for stretch yarn was displayed by Cloverleaf Freeland Corp., Hazleton, Pa. The bobbin weighs 13 oz. and is 5⅛ ins. x 4⅜ ins. with a 3⅛-in. barrel. It holds 1 lb. of yarn. Tradename is Hi-Temp. **(A-139)**

# Armour Energetic® cuts crocking and costs at Standard-Coosa-Thatcher..

## ..and will at your mill!

Standard-Coosa-Thatcher uses Energetic to minimize crocking on this naphthol-dyed yarn—and for maximum detergency and economy in other dyeing and bleaching processes.

"None of the synthetics had solved our crocking problem—until we tried Armour Energetic. That did it, and we've been using Energetic successfully in our dyeing and bleaching processes for the past three years." These are the words of Mr. H. H. Eagar, manager of quality control and development for Standard-Coosa-Thatcher Company. Energetic has proven itself in his mill and in many, many others—why not try it in *yours?*

**Here's how Energetic will cut costs for you!** A powerful, concentrated nonionic synthetic detergent, Energetic is supplied *90% active*—it takes only one pound to do the job of 3 full pounds of anionics. This adds up to a savings per job of about 21¢ with every pound of Energetic you use. And you can add builders to Energetic to cut costs even more.

**Test Energetic now by this trial-order plan!** Send the coupon for free test samples of Energetic and complete booklets on all three Armour Energetic products. Or, for quick delivery on a 5-gallon trial drum, place an order right in the coupon below. Start reducing your scouring problems and costs now!

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Armour and Company, 1355 W. 31st St., Chicago 9, Ill.

Please send me:

☐ FREE! Sample of ENERGETIC
____ 5-gallon drums of ENERGETIC @ $13.86 each
☐ Free Booklet, ENERGETIC and ENERGETIC S
☐ Free Booklet, ENERGETIC W-100 (instant wetting agent)
☐ Bill me ☐ Check enclosed ☐ Money Order

Your money back if not completely satisfied. For refund, simply ship us unused portion.

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ARMOUR

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T6

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*NEW, ADVANCED DESIGN*

# Motor-operated Valve

## Opens and closes in seconds!

- For hot or chilled water, low-pressure steam — seat closes in three to five seconds . . . opening time slightly longer.
- New, compact design — ideal for convectors, radiators, baseboard radiation, air conditioners, spray nozzles.
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- Positive closure — operator force seats valve. Not dependent upon line pressure to close.
- Spring-loaded Teflon packing rings never need adjustment for varying static pressures.

***NEW BULLETIN*** F. 6801, now available. Consult nearby Field Office, or write . . .

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**that takes any beating you can give it**

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**Comparative tests show that this truck, fully loaded, starts and rolls with but slightly more than half the effort required to move the average factory truck.**

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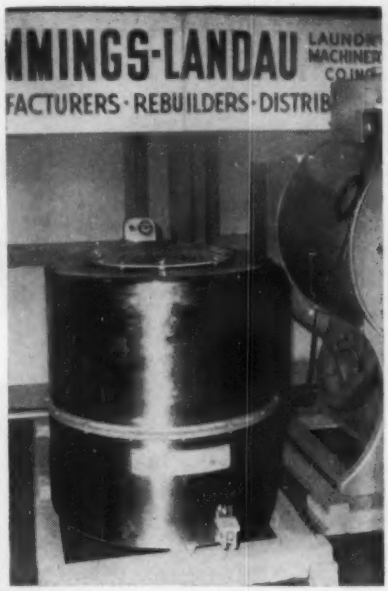
**CASTERS • HAND TRUCKS • LIFT-JACK SYSTEMS**
**HYDRAULIC, ELECTRIC AND MECHANICAL POWER LIFTS AND TRANSPORTS**

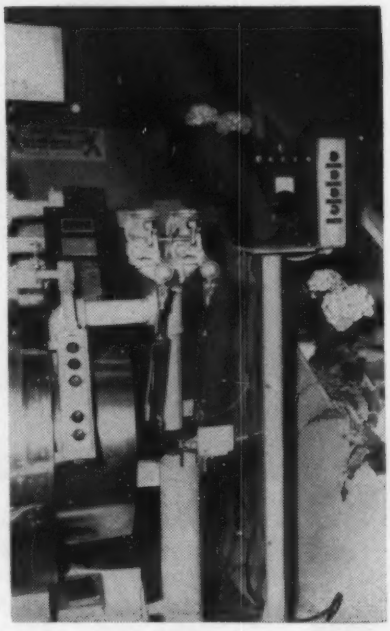
## Dyeing & Finishing

CONTINUED FROM PAGE 115




### Extractor

An improved interlock for an extractor, which prevents operation when the extractor is open, was featured by Cummings-Landau Laundry Machinery Co. A new base completely enclosing the motor and braking system has been added. A new timer mechanism that shuts off the motor and applies the brake is used. The extractor is made of stainless steel and can be supplied in basket sizes of 20 ins., 26 ins., and 30 ins. **(A-140)**



### Automatic Washer Control

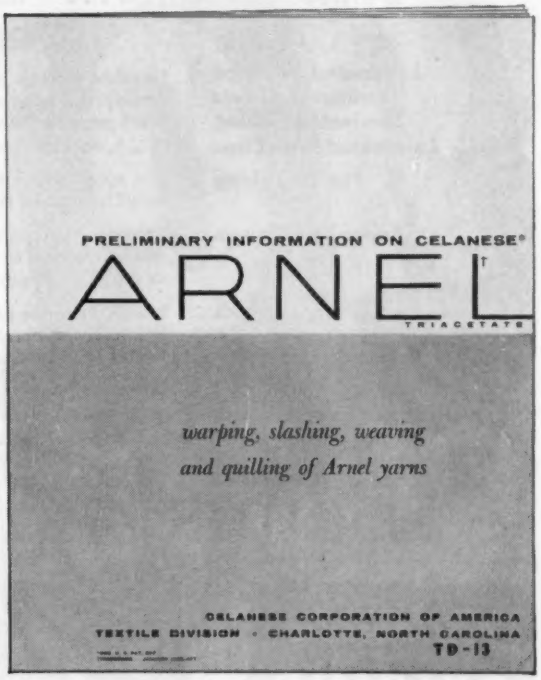
A cycle-control device applicable to new or old washers was shown

# Two new technical bulletins available on Celanese*

# ARNEL†

TRIACETATE

If you are now using, or plan to use, Celanese Arnel, you will find these two new Celanese Bulletins of great help. They summarize existing experience on Arnel including Celanese Research and Development findings. For a copy write to the district sales office nearest to you and ask for them by number.




## TD-13 "Warping, Slashing, Weaving and Quilling of Arnel Yarns"

This bulletin contains formulas and typical procedures for slashing Arnel spun and filament yarns. In addition, important suggestions are made in regard to fabric constructions to help take advantage of Arnel's intrinsic properties.

## TD-14 "Processing of Arnel Staple Fiber"

This 12 page comprehensive bulletin contains much data on the spinning of Arnel staple into yarns. Strength and elongation of typical 100% Arnel yarns and Arnel blended with other fibers are included. Tints suitable for Arnel are listed. In addition, curves showing twist response information are illustrated. The method of identification and determination of Arnel in fabrics or fiber blends is included.

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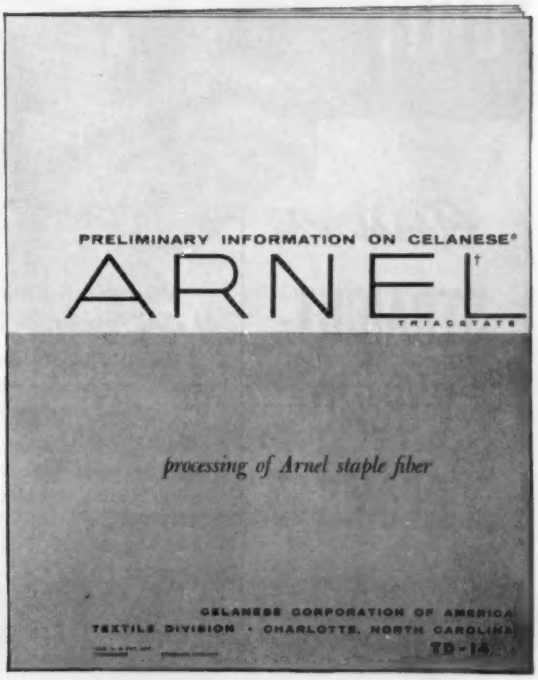
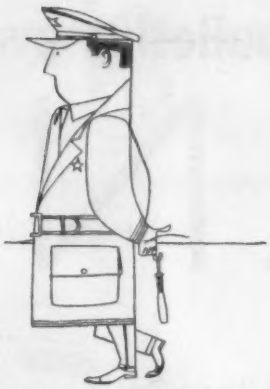



*Sales Offices:* New York, N. Y., 180 Madison Ave.
Charlotte, N. C., Box 1414
Boston, Mass., 140 Federal Street
Camden, N. J., 300 Broadway

Celanese

CORPORATION OF AMERICA, N.Y. 16

# Guard your goods with these protective, economical Bemis coverings...



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| **Laminated Yardage, Laminated Sheets, Laminated Tubing, Laminated Bale Caps** | Durable burlap laminated with a waterproof adhesive to heavy creped kraft paper or other linings . . . a really tough, serviceable protection. |
| **Tite-Fit Tubing** | The spiral-sewn burlap tubing with 2-way stretch; sturdy, economical, fast to use. |
| **Paper Rug Covers** | This double-wall tubing enables rug manufacturers to cut packaging time as much as 50 percent. |
| **Burlap Piece Goods** | Mixed carloads of burlap piece goods in a wide assortment of widths and lengths are available. |

*Write for complete information about Bemis protective covering for bales and rolls . . . or ask the Bemis Man to help you work out the most economical, efficient solution to your problem.*

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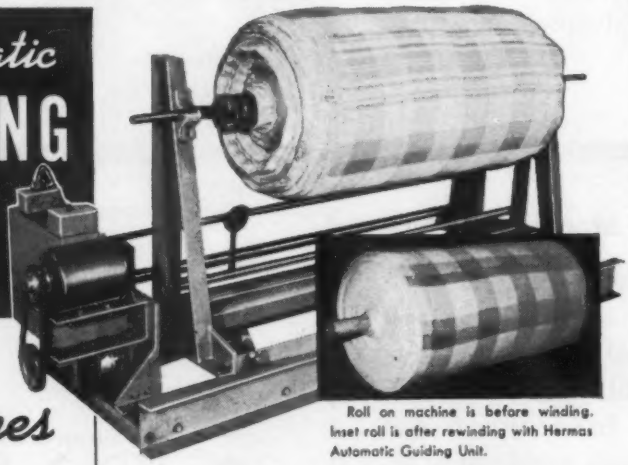
*Automatic*
# GUIDING UNIT



Roll on machine is before winding. Inset roll is after rewinding with Hermas Automatic Guiding Unit.

*Assures*
# STRAIGHT-WOUND BEAMS

***Write for complete details***

***Now get straight, evenly wound rolls of cloth, paper, or plastic batched material.***

Use this let-off guiding unit in front of any machine or process where the material must enter straight and wind up on the other side STRAIGHT.

Operation is simple. When set to the line of selvage travel the sensing device actuates the automatic guiding unit electrically which, in turn, moves the carriage to keep the material running straight and smooth.

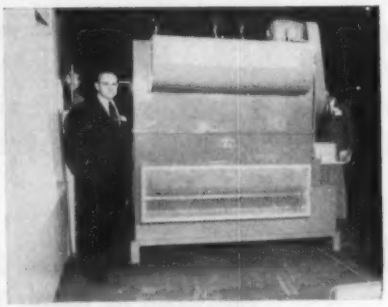
HERMAS MACHINE CO.
Warburton Avenue
Hawthorne, New Jersey


by Henrici Laundry Machinery Co., Boston, Mass. Particularly adapted to washing and finishing dyed-yarn sweaters, the control automatically opens hot- and cold-water valves and the washer drain upon demand from the settings made on a dial.

Operating time of each cycle can be adjusted to suit conditions. The timer is cut out during filling cycles so that variations in water pressure will not affect actual processing time. **(A-141)**

## Mill Maintenance

CONTINUED FROM PAGE 121



### Indoor Weather Control

An indoor weather-control unit for knitting plants was exhibited by Air-Perme-Ator Mfg. Co., Paterson, N. J. The features the unit supplies are: (1) humidification, (2) dehumidification, (3) heating, (4) cooling, and (5) air-changing.

The unit is designed so that humidification only can be installed, if desired. Later, heating and cooling can be added without altering the original design . **(A-142)**

### New NEMA Motors

Two new NEMA rerated motors were shown by Westinghouse Electric Corp., Pittsburgh, Pa. The motors are completely enclosed and are incorporated in the new small frame.

One motor is fan-cooled and has sealed-in bearings. The only openings are on the bottom of the brackets. The frame size is the new 184 rating, which is a 2-hp. motor running at 1,750 rpm.

The second motor is a nonventilated 1-hp. three-phase 60-cycle motor in the new 182 frame. The speed is 1,750 rpm. **(A-143)**

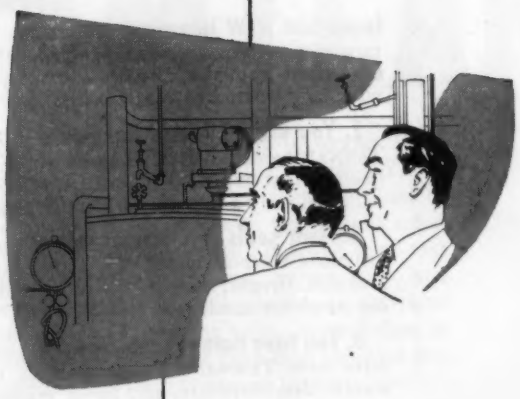
### Oil and Grease Cleaner

A metallic cleaner was shown by H. C. Harding, Inc., Philadelphia, Pa. The cleaner is said to remove all accumulations of hard greases and oils that oxidize on machine surfaces. **(A-144)**

because it's always uniform
and backed by Keever service

# VICTOR
# Mill Starch

*is the weaver's friend*



Charles C. Switzer, Vice President
TEXTILE SALES DIVISION
1200 S. C. NATIONAL BANK BLDG.
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6 TIMES A YEAR is only buffing needed for this Tennantized weave room floor.

3 REASONS WHY YOU CAN NOW

# Save 30% to 60% in Floor Maintenance Costs

**Important NEW improvements** in the TENNANT System now make it possible—a saving of 30% to 60% in floor care costs annually, compared to 5 years ago. Here's why, as reported by many mills:

**1. You use 50% less manhours** today in cleaning a TENNANT-treated floor because its dirt-resistance has been almost tripled. You buff only 1/5 to 1/10 as often . . . need only a dry mop for daily cleaning.

**2. Floor seals last 4 times longer** today because they are more wear-resistant, stand up better under oil, grit and dirt. Bright, lustrous finish is easily renewed without need for sanding.

**3. You save time in problem areas,** like weave rooms, with new TENNANT materials that resist humidity, starch, discoloration, etc. Saves manhours (see photo above). *Write today for details; ask for estimate of savings possible in your mill.*

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2586 N. 2nd Street
Minneapolis 11, Minn.

**FLOOR MAINTENANCE SYSTEM**

## Uneven Cloth

CONTINUED FROM PAGE 137

the shaft, (2) stirrups spaced on the treadles incorrectly, and (3) heddles set incorrectly so that a faulty warp shed is formed.

### Stopping Reedy Cloth

In most cotton fabrics, a smooth hand is desirable and can usually be obtained. But to obtain it, the yarns must bend enough during interlacing to fit snugly together. In beating up the filling yarn, the warp yarn must spread evenly. If these two conditions aren't met, reedy cloth results. In reedy cloth, the warp ends lie in pairs or small groups with open spaces between each pair or group.

Reediness can be eliminated by having an uneven warp line. To form the uneven line, raise the whiproll, warp stop motion, and the take-up roll or breastbeam. With these settings, the bottom line of the shed is tight and the top line of shed is slack. Then the warp ends in the top shed roll or spread as the filling yarn is forced against the fell of the cloth and, consequently, they weave in uniformly.

Five other common causes of reediness are:

1. Harnesses timed late
2. The bottom line of the warp shed too high above the shuttle race
3. Too much warp tension
4. Defective reed
5. Loose reed

Timing the harnesses early improves the cloth appearance two ways: (1) it helps eliminate reediness by having the warp ends well separated at the beat-up, and (2) the chaffing received during the beating up raises the fibers of the yarn, which smoothes the cloth face.

However, if the settings are carried to extremes, other weaving conditions are adversely affected. For example, raising the warp line too high increases yarn breakage, makes overshots, and gives extra work to the weavers and loomfixers. Harnesses timed too early increase the friction on the yarn and cause end breakage.

In the preparation of the yarn and in weaving, each machine should be made to obtain the most uniform fabric possible consistent with profitable production.

## Steel Rolls

CONTINUED FROM PAGE 151

Preventive maintenance may do much to increase the life of the rolls. Preventive measures start first with alert supervision. Oiling schedules should be rigorously followed to provide adequate oiling of the bearings.

CONTINUED ON PAGE 230



For more information, write direct or use Reader-Service post card.

# new MIRACLE in METALLICS

AMERICAN INSTITUTE OF LAUNDERING
CERTIFIED
WASHABLE

# A.I.L. APPROVAL

*(American Institute of Laundering)*

# for METLON® with MYLAR*

**FIRST** and **ONLY METALLIC YARN** approved by the A.I.L. for *Washing* and *Ironing* at high temperatures.

The American Institute of Laundering is the Non-Profit Research Center of the Textile-Laundry Industry. No article is ever awarded their seal until it has been tested and meets A.I.L.'s exceptionally high standards of launderability. These standards are determined by thorough research in A.I.L. laboratories by skilled technicians plus the practical experience of thousands of laundries.

Imagine! Here is a new metallic yarn so unquestionably superior that it passed every phase of this rigid testing program. These tests proved that METLON with MYLAR showed absolutely no tendency to bleed or discolor fabrics in white work, light color, wool washing formulas. Approved color fast in sunlight, gas fading, perspiration and crocking tests. Did not separate in activated washing and finishing tests. Never before in history has a metallic yarn been awarded this coveted seal for guaranteed launderability!

Let our textile engineers work with you in the development of new metallic miracles in *your* particular field. Write, wire or phone TODAY!

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Are you asleep to progress? Wake up to the fact that a Lazenby Winder is best for your particular operation because it's made precisely from your specifications. There's no guess-work involved. Winders for lightweight or heavy fabrics, plain or automatic looms. Cop or Bobbin winders. All made exactly for your particular operation. Send us a small supply of your yarn and we'll wind and return with Test Wind Report and Catalog.

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For areas where you want ALL unsightly, fire-inviting weeds and grasses eliminated, such as railroad sidings, along fences and abutments, parking lots, drives and walks. An economical solution of SS Weed-Killer kills plants and seeds on contact, then works down through the soil, killing roots and sterilizing surrounding earth — affording freedom from weeds for as much as an entire year!

And . . . for keeping lawn areas, seeded traffic islands and other improved areas free from noxious weeds, use E.W.T. *SELECTIVE* WEED-KILLER. Non-injurious to most grasses.

*Scientific chemical weed control literature on request.*

FOR FREE SANITARY SURVEY OF YOUR PREMISES SEE YOUR DOLGE SERVICE MAN

dependable DOLGE

WESTPORT, CONNECTICUT

Frequent inspection and spot checks by responsible personnel should be a routine procedure designed to eliminate neglect of oiling points, inadequate oiling, or the use of a schedule not suited to frame requirements.

Practices that could injure rolls should be guarded against. The major part of this type of damage is caused by the use of knives, steel hooks, or other instruments to remove lap-ups. Only two articles should ever be used for this purpose: a small, loose lap-up should be removed with the fingers only; and a tight or large lap-up should be removed with a brass hook. Brass will not harm the flutes of a roll; steel will.

Roll damage can be lessened by adequate patrolling of the spinning frames. Lap-ups that are not caught in time may become so large that the force against the steel roll may cause serious damage. When such damage occurs, the roll may run eccentrically at that section until it is noticed by the supervisor, fixer, or overhauling crew. During the time that the bent roll is used, poor yarn and increased wear may be expected.

When steel rolls are replaced, care should be taken that the replacement rolls are within the limits of eccentricity; that joints fit tight; and that the fluting is sharp, of the proper angle, and spaced irregularly to prevent tracking of aprons and top-roll covering. The use of hardened rolls, while more expensive to buy, may prove to be a wise investment because of their longer life expectancy.

## Tips on Package Dyeing

CONTINUED FROM PAGE 123

Rinse with two cold rinses

Add 1½% peroxide cold, bring to boil, run 20 mins.

Add 1% sodium alkylaryl sulfonate

The dye and dispersing agents are thoroughly mixed in the expansion tank with a portion of the total water that will be used in the dyeing. The mixture is heated to 155° F. and pumped through the dry yarn. Meanwhile, the additional dispersing and wetting agents are introduced into the stock tank with the balance of the water required to make up to 12 to 1 ratio. The total mix is then run 35 mins., and caustic and hydrosulfite are added.

The peroxide bath is used as an oxidizing agent; and in the final rinsing, softeners are added to overcome any tendency to harshness. Choice between anionic or cationic softeners will depend on requirements because yarns for knitting may demand a different finish from yarns designed for weaving.

# KYRO AC

# SAVES

## WOOLEN MILL

# $73,100

## IN A SINGLE YEAR!

**GIVES MORE SALEABLE FABRICS, TOO!**

Woolen mills in increasing numbers are reporting important savings in their processing costs—and more saleable fabrics—after changing to Kyro AC, a new type of modified amine condensate product with soap-like action on wool. Here is a typical example:

**$5600** SAVED
through a 15% reduction of fulling time

**$60,000** SAVED
through a 40% reduction in flocking

**$7500** SAVED
through the lower initial cost of Kyro AC

We welcome the opportunity to show how Kyro AC can effect similar savings in your mill. Get the full story of Kyro AC from your Procter & Gamble salesman, or drop a line to

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**TEXTILE FINISHES SALES DEPARTMENT**
**CINCINNATI 2, OHIO**

**Makers of Profine, Kyro AC, Olate, Proxol, Proxol-T and Orvus products.**

● Have you received a copy of our recently published booklet on Fulling and Scouring Wool Fabrics? A postcard request will bring it to you.

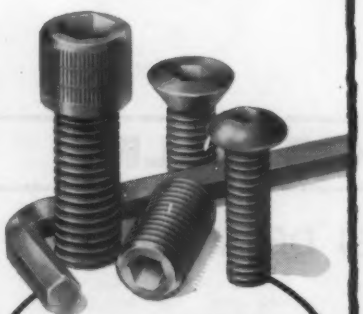


For more information, write direct or use Reader-Service post card.

# What mill people say ABOUT ALLEN SOCKET SCREWS

"Impressed with sales talk about special points until I remembered the makers of the equipment we use standardize on Allen. If the special points had any merit at all the loom makers would use them."

—Superintendent
Textile Mill



ALLEN
MANUFACTURING COMPANY
Hartford 2, Connecticut, U. S. A.


## Equipment & Supply News

CONTINUED FROM PAGE 164

### Multiple Process Controller

An electronic watchdog, which makes it possible to test and control continuously an unlimited number of industrial processes from a single vantage point, has been developed by Fielden Instrument Div., Robertshaw-Fulton Controls Co., 2920 N. 4th St., Philadelphia 33, Pa. Called an indicating scanner, the instrument monitors process variables involving level, temperature, thickness, mechanical movements, tolerances, weight, and pressure. Maximum rate of scanning: one per second. (T-25)

### Centrifugal Mixer

A Rheinhuette mixer that works on the principle of a centrifugal pump is available through Neumann & Weaver, Inc., 22-12 Raphael St., Fair Lawn, N. J. When the impeller rotates, liquid is sucked from both top and bottom and driven out radially at different velocities toward the sides. Uses: mixing dyes, high-consistency starches, and chemicals.

The mixing impeller consists of an oval-shaped block with a circular opening at the top and another on the bottom, and each opening is connected by curved channels to slots on the sides. As the impeller rotates more rapidly, the suction at the top and bottom of the impeller increases, and heavy liquids or solids are drawn up from the bottom of the container and lighter liquids are drawn down from the top. At the same time, the centrifugal force increases and the liquid is impelled outward with a violent mixing agitation. (T-26)

### Electric Counter

Durant Mfg. Co., 1931 N. Buffum St., Milwaukee, Wis., has announced the addition of a tamperproof, tumbler-lock-reset electric counter, Model 6-Y-1-2-MF Productimeter.

The counter is designed for panel mounting; it is equipped with a mounting plate, and the lock reset is at the right of the plate. The entire assembly can be placed in a panel directly from the front.

Over-all dimensions: 5½ ins. long, 2⅞ ins. deep, and 2⅛ ins. high. Operating speed: up to 1,000 counts per minute. (T-27)

### Ultraviolet Lamp

An ultraviolet-ray lamp available from Charlotte Chemical Laboratories, Inc., Charlotte, N. C., shows up potential dye streaks in raw cotton or gray goods.

CONTINUED ON PAGE 236


WILTEX
ALUMINUM CLOTH ROLLS

Heat-treated aluminum castings, funnel shaped on inside to facilitate insertion of through shaft.
High strength heat-treated aluminum alloy tubing. Free from splintering & distortion, cannot rust and no fire hazard.
Distributed in N. England, M. Atlantic, and Southern states by United States Supply Co., 585 Broadway, E. Providence 14, R. I.
Wilgrip Special Finish eliminates need for starting slot or irregular contoured roll.
Inert gas welded joint. Standard sizes 3-½" & 4-½" diameter, any length, other sizes quoted on request. Journal ends can be furnished.

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## REINER CREELS

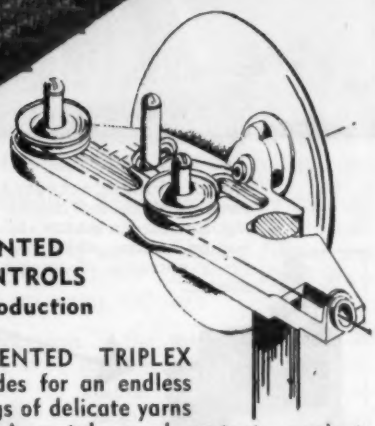
The most modern in use—have many features. Time-tested and proved in mill operation, they provide for savings in labor—producing better warps at higher speeds. They are readily adaptable to pirns of all sizes and all types of cones or cores.

Reiner magazine or single type creels give unmatched performance for any space or functional requirement. Truck creels for quick doffing are also available.

**Reiner offers a full line of warpers and beamers.**

*All Reiner equipment is readily adaptable for use with units of other make.*

From Cone to Knitted Fabric—From Creels to Warpers—From Knitting Machines to Tenter Frames—You Can Depend On Reiners For Superb Workmanship, Low-Cost, Profitable, Efficient, Trouble-Free Production!



## REINER PATENTED TENSION CONTROLS for Quality Production

REINER'S PATENTED TRIPLEX TENSION provides for an endless variety of settings of delicate yarns at top speeds. A metal guard protects against ballooning yarn—eliminates breaking or nicking. Four different weights of tension washers meet all possible requirements. All posts are movable and the slots calibrated for easy setting. Alsimag or porcelain eyelets—tension posts available in Alsimag or satin-finish hardened chrome.

**Other tension arrangements with single or double posts—tensions with loom type stop motions—tensions for crepe or special yarns—mercury—loom type—mechanical stop motions for any yarn or special requirements.**

***Write for complete details.***

Also ask about the most recent addition to the complete Reiner line — the Reiner Warp Oiling Device.

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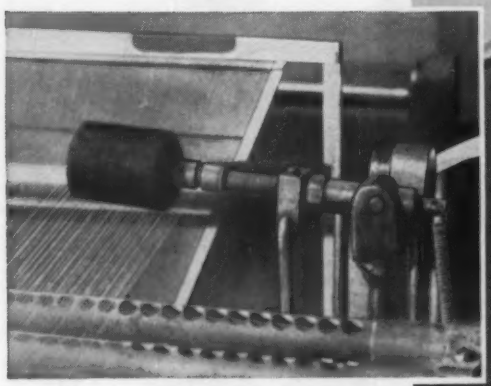
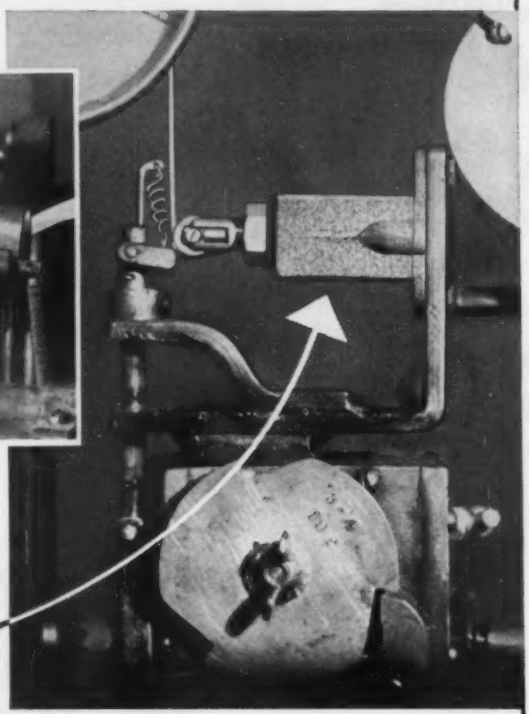
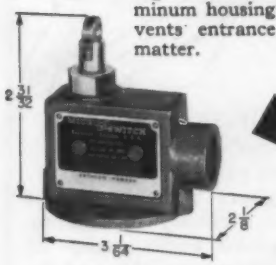
FULTON COUNTY SILK MILLS

# use switch to control color marker for tricot





Roller plunger actuated switch with bottom mounting. Enclosed in sturdy aluminum housing which prevents entrance of foreign matter.




Roller plunger type MICRO SWITCH unit is connected to pawl with levers. Dauber (inset) drops to marking position as solenoid is energized.

• Here is a color dauber controlled by the action of a MICRO SWITCH precision switch. It was devised by the Fulton County Silk Mills of Gloversville, N. Y., to mark warp in yards as it passes through a tricot knitter.

When the MICRO SWITCH unit is actuated, current is sent through a solenoid which pulls down the color dauber and makes a color mark about 4" long on the warp. The roller plunger switch is connected with the dauber mechanism by levers actuated by the timing cam.

This ingenious device is typical of hundreds of uses textile mill operators find for MICRO SWITCH precision switches. For competent advice on how you can make your mill equipment more automatic, safer and more productive contact the nearest MICRO SWITCH branch. MICRO SWITCH distributors, with complete stocks of a wide variety of switches, are located near you. Look in the Yellow Pages under "Switches, Electric."

## A few of the many ways MICRO SWITCH products are serving the textile industry

as trumpet stops on combing heads
•
as carriage movement controls
•
to prevent needle breakage
•
to stop bobbin winding when bobbin fills
•
to automatically eject unfilled quills
•
to stop motor when gear box is opened
•
to control position of pressure roll on warper
•
to control tension on cloth measuring machine
•
as thread breakage detectors
•
to control cloth position as web unrolls
•
to position clamps on cloth stretching machine
•
as thread run out detector on loom shuttles
•
as selvedge build-up control
•
as fabric thickness detectors
•
and many other textile applications

MICRO SWITCH provides a complete line of extremely reliable, small-size, high-capacity, snap-action precision switches and mercury switches. Available in a wide variety of sizes, shapes, weights, actuators and electrical characteristics. For all types of electrical controls.

**MICRO SWITCH**
A DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR COMPANY
In Canada, Leaside, Toronto 17, Ontario • FREEPORT, ILLINOIS

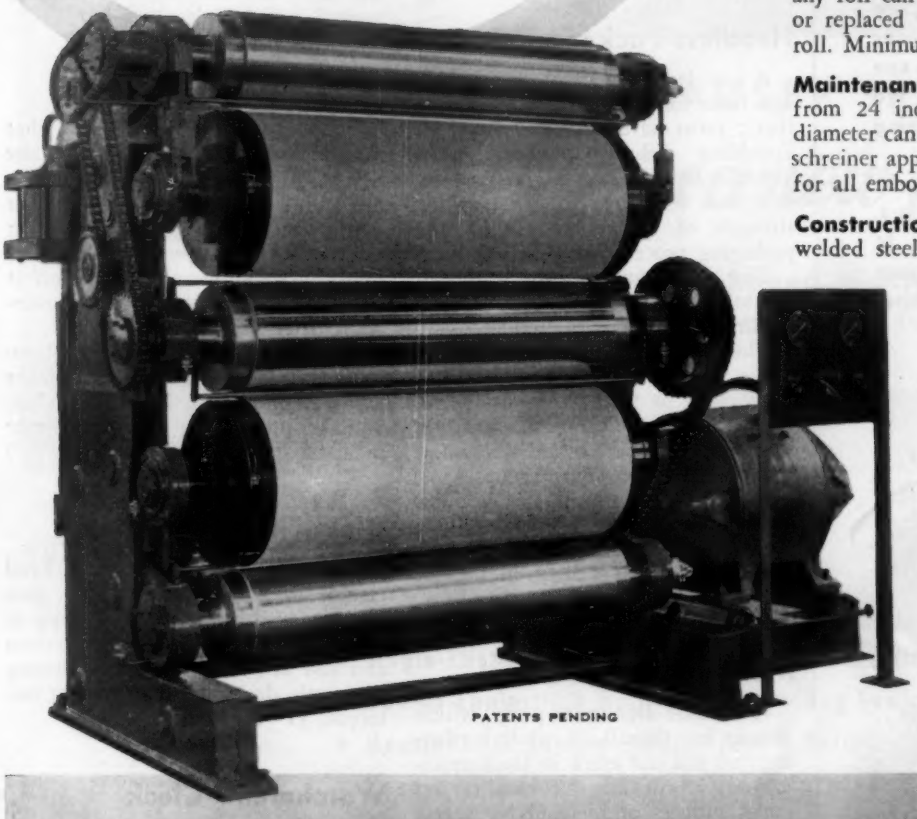
HONEYWELL

*Why*

**McKIERNAN-TERRY**

# Multiple Roll Calenders

*are superior in*
*adaptability*
*accuracy*
*economy*



PATENTS PENDING

**Versatility** . . . flexibility of these calenders exceeds that of any other designs—rolling—friction—schreiner—embossing.

**Permanent Alignment** . . . accurate, parallel alignment of rolls is maintained, no matter how many times the rolls are removed or replaced.

**Roll Accessibility** . . . the rolls of these open side calenders are more readily accessible than calenders with enclosed frames—any roll can be readily and safely removed or replaced without disturbing an adjacent roll. Minimum down time for roll turning.

**Maintenance Economies** . . . filled rolls from 24 inches to turn down of 18-inch diameter can be used for rolling, friction and schreiner applications. Only one set of gears for all embossing roll sizes.

**Construction** . . . the main frames are of welded steel, stress relieved, accurately machined . . . stronger than comparable cast iron sections. Rolls mounted in anti-friction roller-bearings.

**Loading** . . . air cushioned—quiet operation at all speeds—greater protection for rolls.

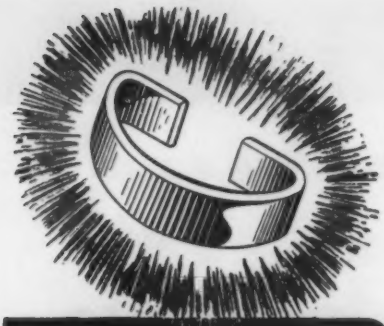
These pneumatic multiple roll calenders are available in capacities from 15 tons to 60 tons, in 3, 4 and 5 roll types.

Write for complete information on all their many superiorities and applications.

MK-611

## McKIERNAN-TERRY CORPORATION

**TEXTILE MACHINERY DIVISION** **DOVER, NEW JERSEY**



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JOHN H. O'NEILL, BOX 720, ATLANTA, GA.
JAMES H. CARVER, BOX 22, RUTHERFORDTON, N. C.
CRAWFORD "JACK" RHYMER, BOX 2261, GREENVILLE, S. C.

## Equipment and Supply News Continued

The Identa-Lite has three 48-in. ultraviolet-ray lamps and a special high-intensity reflector. Under its rays, each of the potential dye-inhibiting fibers, such as immature, cat-eye, or California cotton, has a characteristic reaction. The same principle is true of oil spots or other contamination in gray cloth or hosiery. So the Identa-Lite eliminates potential dye streaks at their source in the raw cotton and makes it possible to pinpoint the causes of improper dye absorption in cloth and hosiery. Complete unit costs $75. (T-28)

### Overload Protection

An overload protective coupling called Tork-O-Stat, which safeguards against machine breakdowns, has been announced by Machine Accessories, 6 E. Franklin Ave., Minneapolis 4, Minn. The device is used between driver and driven shafts. Prices start at $7.95. (T-29)

### Headless-Package Tube

A new bobbin and a headless-package tube for the processing of synthetic yarns have been developed by Spaulding Fibre Co., Inc., 310 Wheeler St., Tonawanda, N. Y. They offer full resistance to the crushing strength of synthetic yarns in the packaging process.

The plastic used is a laminated phenolic. No screws are used in the construction of either product.

The aluminum tube of the bobbin makes possible a large-diameter head connection to provide maximum resistance to yarn pressure, furnishes support to the barrel, and distributes the pressure load advantageously.

The plastic used in the headless tube is snag-free, distributes heat evenly in the steaming operation, does not oxidize, and is light in weight. (T-30)

### Metallic Putty

A versatile aluminum putty, which shrinks less than 0.2% while hardening and will not crack in thick applications, is available for building up metal surfaces or for caulking seams and holes in metal and wood surfaces. The putty can be applied with simple hand tools to vertical and overhead surfaces. Known as Metalset A201, the putty is manufactured by Smooth-On Mfg., Jersey City, N. J. (T-31)

### Packaged Boiler

With 104 sq. ft. of floor area and only 728 cu. ft. of plant space, a new twin-unit package boiler installation delivers 10,000 lbs. of steam per hour. Developed by the Cyclotherm Div., U. S. Radiator Corp., Oswego 2, N. Y., the C-5000 can economically produce steam at down to one-third rated capacity. (T-32)

### Steam Valves

Union-bonnet, rising-stem, and gate valves in the 125- and 150-lb. working-pressure classes, to replace solid- and split-wedge rising-stem, screwed-bonnet valves with the same pressure rating, have been introduced by The Fairbanks Co., 393 Lafayette St., New York 3, N. Y. (T-33)

### Burn Neutralizer

Neutralize, introduced by E. D. Bullard Co., 275 8th St., San Francisco 3, Calif., can be safely used to counteract acid and alkai burns. Just pour Neutralize into the eyes or over the skin, and the chemical is made neutral and harmless. (T-34)

### Portable Wire Stitcher

A portable wire stitcher that weighs 59 lbs. is available from Acme Steel Co., 2840 Archer Ave., Chicago 8, Ill. The Model K table-top stitcher closes bags of cellophane, single- or multiwall kraft paper, plastic, aluminum foil, and waxed paper; and it can be used to fasten labels to merchandise.

Drawing round wire from a continuous-length five-pound reel, the stitcher cuts it to proper length, forms stitches, and clinches them at 200 per minute in material up to $\frac{1}{8}$ in. thick. (T-35)

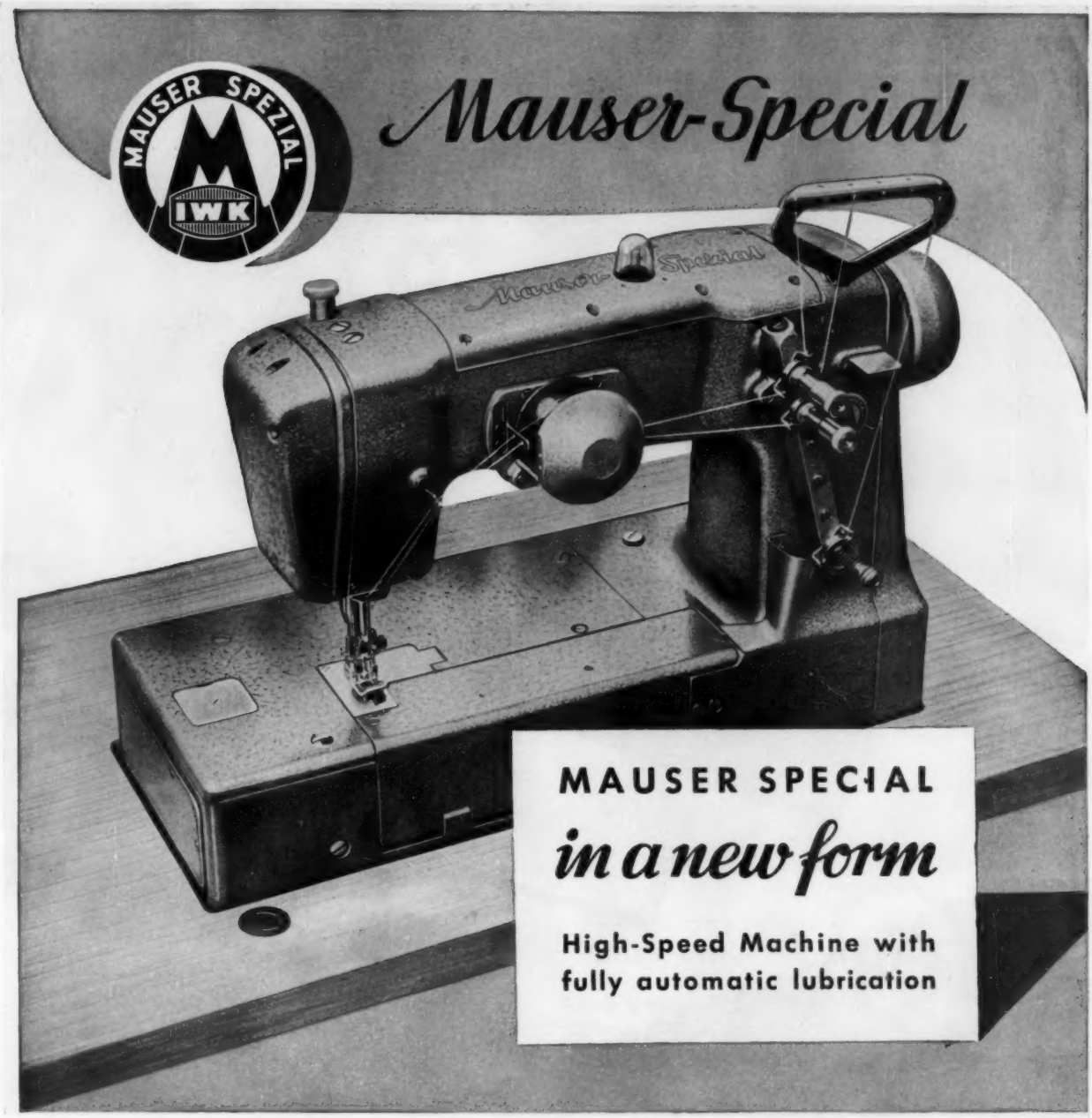
### Glass-Fiber Protection

Sanchia silicone protective hand cream for workers exposed to glass fibers is available from Otis Clapp & Son, Inc., Boston, Mass. The cream also acts as a barrier against irritating chemicals, dust, and other foreign materials. (T-36)

### Watchman's Clock

The Lathem Watchman's Clock Co., 76 Third St., N. W., Atlanta, Ga., is now making a watchman's clock with a three-day dial that lasts over the weekend. (T-37)

CONTINUED ON PAGE 248

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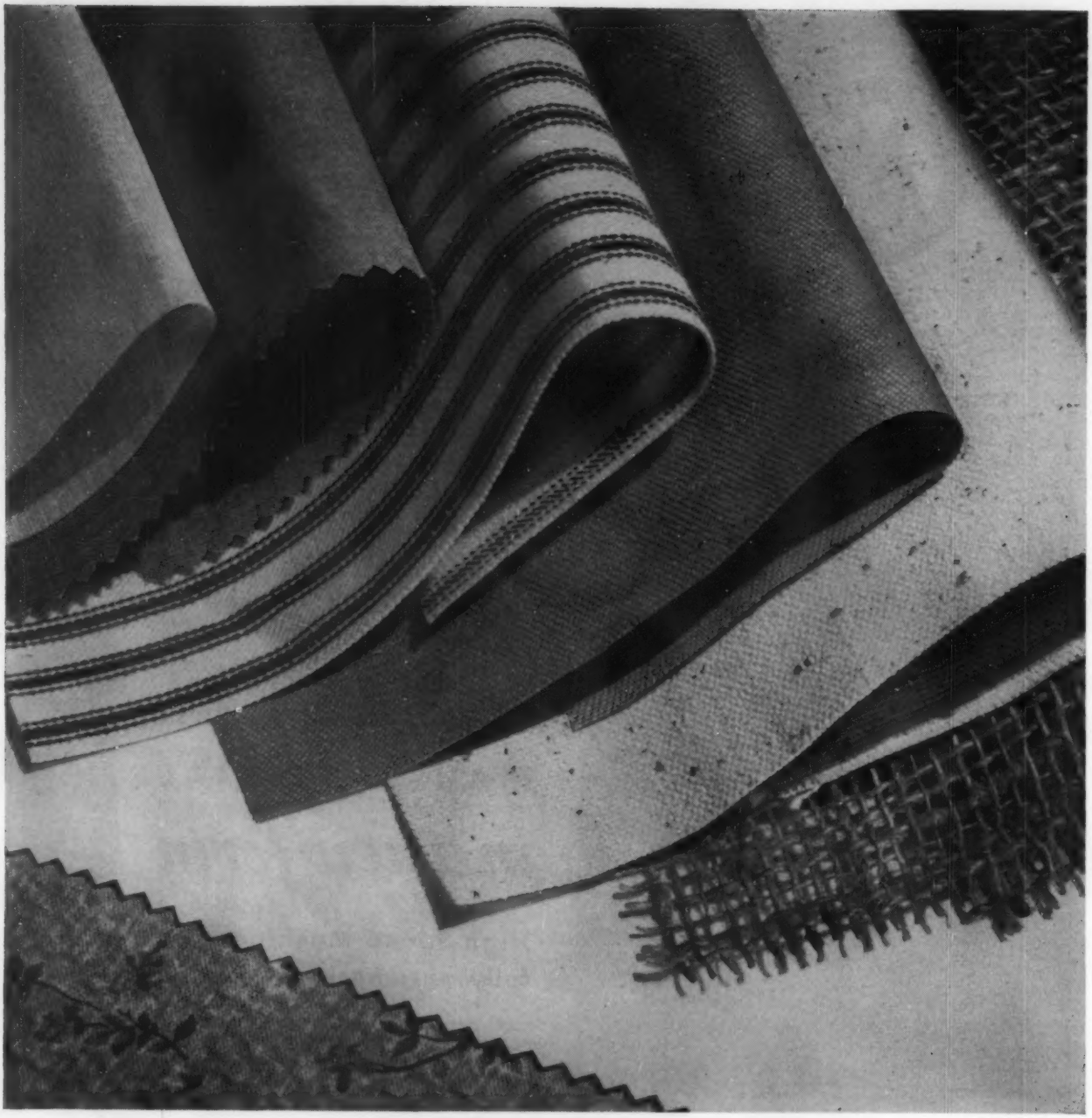

# UNIFORM FINISHING with GLOBE® starches and gums

Your fabric finishing problems are reduced when you use finishing sizes made with Globe Brand Starches and Gums. These products are manufactured to exacting specifications. Globe Brand Starches and Gums have greater uniformity and stability of viscosity, enabling the mill to maintain high finishing standards at minimum cost. Quick deliveries of Globe products can be made to any plant location.

Our research staff is constantly at work developing superior finishing products especially for your needs.

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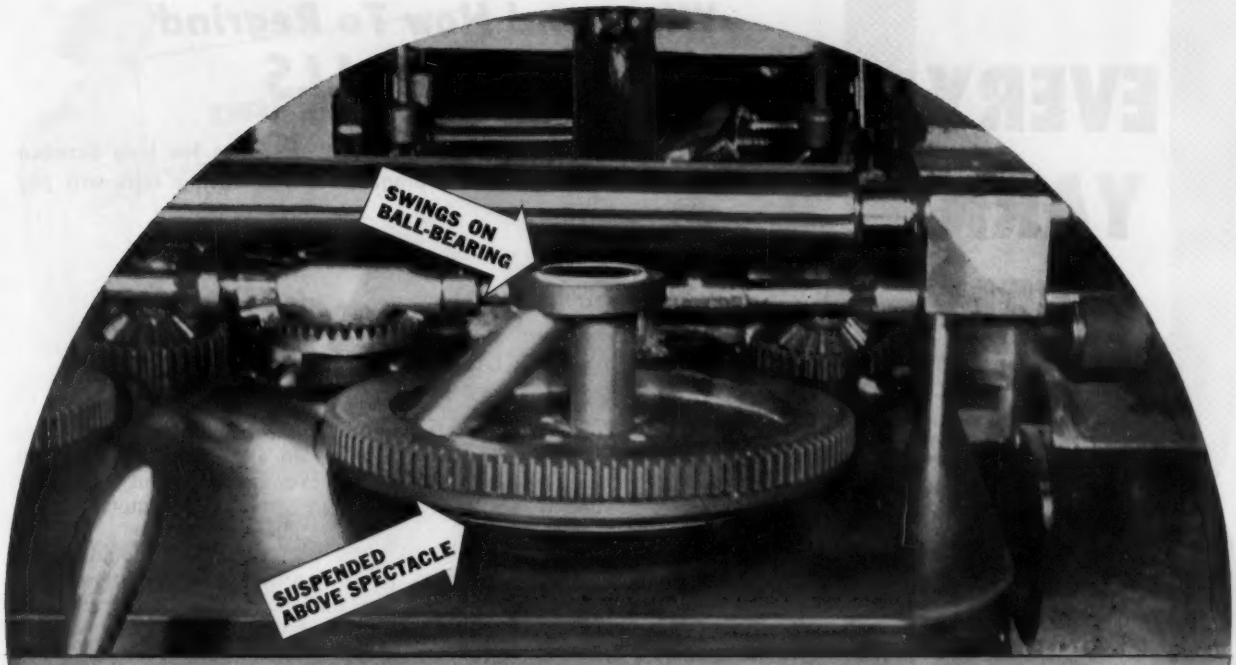


Ideal Ball-Bearing Anti-Friction Coiler Tube Mechanism*

# *This Coiler Tube*

## Has No Speed Limit
## Never Needs Oil
## Eliminates Static

### It Swings

This Ideal Coiler Tube Mechanism swings lightly and freely by means of a ball-bearing at the top, instead of dragging heavily on the spectacle surface. It will run silently at any speed you wish to attain.

### Never Needs Oil or Grease

Because the bottom of this Ideal Coiler Tube Mechanism is suspended above the spectacle surface, it never needs oil or grease. Neither does the ball-bearing, which is permanently sealed and lubricated. It is impossible to cause oil spots with this mechanism.

### Eliminates Static

The Ideal Coiler Tube Mechanism is made entirely of phenolic fibre which never generates static. This feature alone is of tremendous value to mills which draft synthetics or blends.

This new mechanism is available for cards, drawing, and combers . . . for all size cans. Get full information about it today.

*Patents Pending

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# When and How To Regrind RUBBER ROLLS

**As often as not, rubber rolls are left in service too long between regrindings. A systematic program of resurfacing rolls will pay off in—**

- **Longer roll life**
- **Better performance**

**By DAVE KUNIHOLM,** Rodney Hunt Machine Co.

THE OBJECT of regrinding is to restore a used roll to its original roundness, straightness, contour, and capacity for the work it was engineered to do.

Regrinding is needed when—

- the original surface has worn unevenly
- the surface has suffered minor accidental damage
- the roll has been idle in storage
- the roll has developed hairline cracks
- the roll surface, especially that of an old roll, has developed a slight surface hardening or density change because of ageing

These conditions apply especially to squeeze rolls of soft rubber; they rarely apply to idler rolls of hard rubber.

Frequent regrindings on a well-planned maintenance program add to the total service life of a rubber roll. Moreover, each regrind produces a fresh new surface that restores the original efficiency of the roll. It is more economical to do shallow grinding frequently than to make a heavy grinding cut at long intervals.

## Equipment Used

Modern roll-grinding equipment produces roll surfaces of remarkable precision on either straight or crowned rolls. This equipment, however, is rarely found in the plants of roll users but only in those of roll makers. The user of rolls who does not return his rolls to the maker for regrinding must generally rely on a machine lathe with a motor-driven grinding attachment. This equipment will produce reasonably satisfactory results in refinishing straight-surface rolls. Results depend on the interest of the operator; he must learn how to handle rubber as he learned how to handle metal. But there is no special difficulty; any man who can cut metal can grind rubber.

The first consideration is the rigidity of the machine. It is impossible to do a first-class grinding job unless the grinding unit is rigidly mounted. A 1- to 2-hp. motor should provide sufficient power.

The grinding wheel should be 10 to 12 ins. in diameter with a 1-in. face and reasonably coarse grain to prevent filling. The speed of the grinding wheel should be 2,500 to 3,000 rpm., based on the recommended speed of the wheel manufacturer. The roll should revolve at a slow speed in counter direction to the grinding wheel. Hard or medium-soft rolls should run at 15 to 20 rpm. and soft rolls at about 10 rpm. The rolls can be run at higher speeds as grinding nears completion.

## Grind Dry Rolls

Rubber rolls should always be ground dry. If possible, they should be run on their own journals if the conventional lathe back rests are available. If the rolls are run on shaft centers, it is necessary to check the shafts by indicator to be sure that the bearing surfaces run true with the centers. Roll axis and grinding-wheel axis should be at the same level.

The first cut is a roughing cut, not over $\frac{1}{32}$ in., to take off surface irregularities. Length of cut, travel speed of the tool post, and speed of roll may indicate a cut well under $\frac{1}{32}$ in.

Finishing cuts should be made after the first grinding passes have been made and the new surface formed below the depth of oxidation, hairline cracks, or surface damage. The cuts should be 0.002 to 0.004 in. for best results. The last two or three passes of the wheel should be made with no feed at all. If extra smoothness is desired, finish at high speed with 100- or 150-grit abrasive paper. Some operators finish with emery cloth mounted over felt on a board.

Regrinding crowned rolls is rarely practical in the user's own shop. It is usually necessary to send such jobs to a roll manufacturer who is equipped with suitable machines for the job.

# with a see-thru package by Shellmar-Betner

Any textile product looks its Sunday best in a Shellmar-Betner see-thru* package. It's never shopworn, even after repeated handling by customers. And both retailers and shoppers appreciate this packaging for its fresh, crisp, colorful look.

This pajama package is only one example of hundreds of different packages that Shellmar-Betner craftsmen make especially for the textile industry. If you're interested in better flexible packaging for your product, call Shellmar-Betner today.

*Remember!
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**Shellene (Polyethylene), Cellophane, Saran, Acetate, Pilofilm, Mylar, Vinyl. Laminations — combining all types of Flexible Packaging Materials. Shell-Pli — Shell-Glo**

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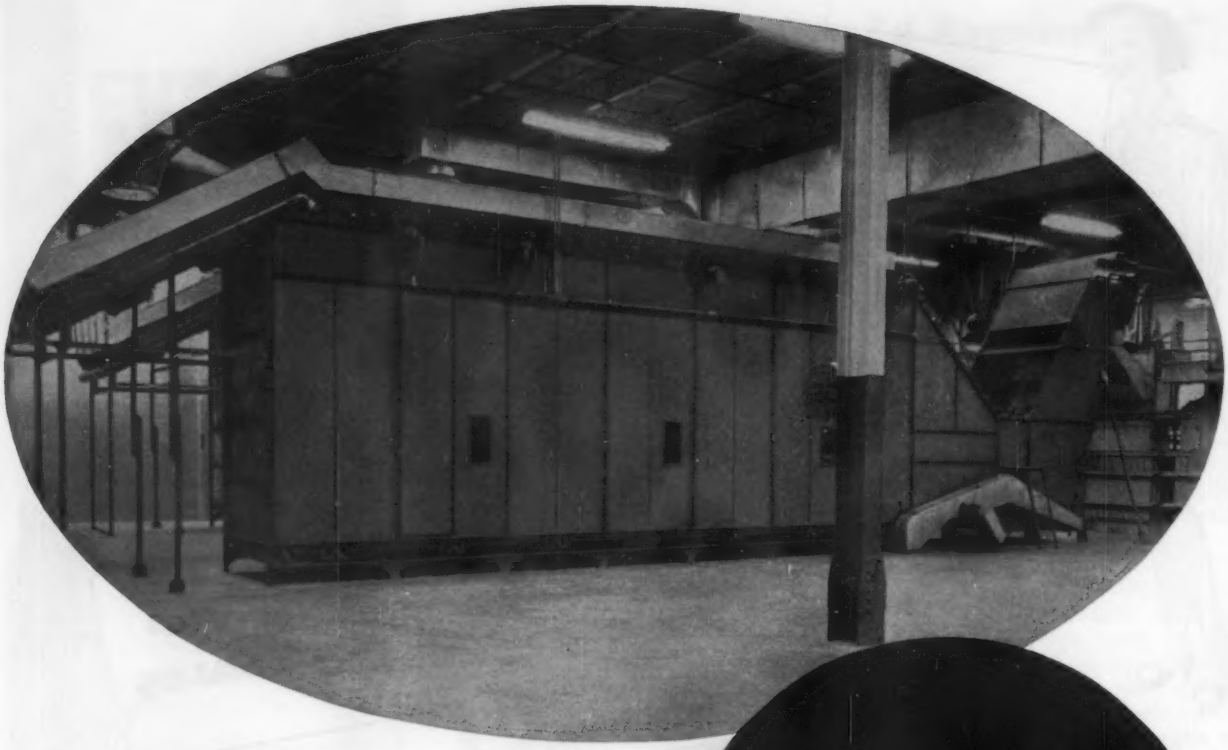

**Today's accurate, uniform blends**

**MAKE MORE PROFITS**

**because of Proctor & Schwartz developments**

Today, improved blending of wool or synthetics is a cost-saving reality in close to a hundred Proctor-equipped mills. For example, the Proctor "Roller Distributor", shown above, first distributes the precision-weighed stock, builds it up in layers, and then breaks it down evenly—keeping variations in fiber distribution as low as 1 to 1½%! Regardless of the size of your mill, a Proctor & Schwartz blending system will not only pay for itself quickly in direct labor savings, but also in the production of better yarns at greater profits.

Blending is just one of the many fiber processing operations of every conceivable type which have been pioneered by Proctor & Schwartz—world's largest and most experienced producer of blending machinery. And, as always, every piece of Proctor blending equipment, from the smallest pilot unit to the largest system, comes to you with the assurance of quality performance—*as guaranteed.*

**RECENT REPRINTS OF INTEREST IN THE TEXTILE FIELD**

*Write for your copy of Mr. John H. Senior's recent talk delivered at the Lowell Technical Institute entitled: "Mechanical Blending In a Woolen Mill".*

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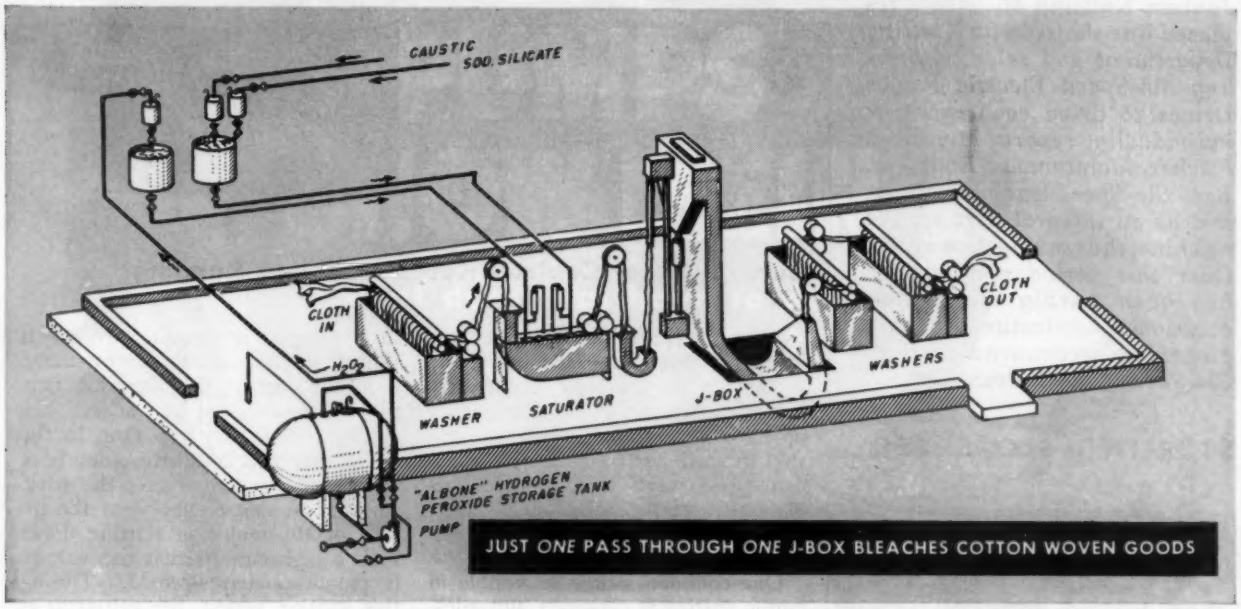
**Manufacturers of Textile Machinery and Industrial Drying Equipment** **Philadelphia 20, Pa.**

# Here's the latest Du Pont contribution to better peroxide bleaching for you




# ONE-STEP single-stage continuous bleaching of cotton woven goods

A NEW Du Pont development greatly simplifies the bleaching of cotton woven goods—cuts over-all costs as much as 20% and still produces results equal in every way to those obtained with multi-stage systems.

With Du Pont's compact new process, boiling out and bleaching are handled simultaneously. This means you can maintain present production levels with half the equipment, half the floor space . . . or double production with existing equipment. Mechanical damage to cloth from handling is reduced, and savings of up to 50% in labor, steam, water and power are quickly realized.

We'll be glad to show you how your present bleaching system can be modified to operate on this new *one-step* principle. Or, if you're planning to install new equipment, we'll show you how the Du Pont process can substantially cut the cost of your initial investment.

**NOTE:** *Du Pont does not build or sell bleaching equipment. However, Du Pont systems are available* now *from leading equipment manufacturers.*

*Send coupon for details*

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**PERDOX®** sodium borate perhydrate

**SOLOZONE®** sodium peroxide

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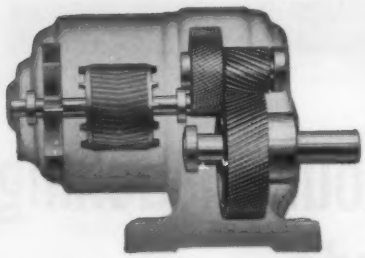
# Notable Service Record Reported For Slo-Speed

*Approximately 15 years ago Jantzen Knitting Mills Inc., replaced line shafts in its Knitting Department and selected Sterling Slo-Speed Electric Power Drives to drive each machine individually, reports Mr. C. A. Fischer, Maintenance Engineer. Each Slo-Speed was mounted in, and as an integral part of, the machine, thus saving floor space. Over this period maintenance has been hardly more than occasional lubrication. We are pleased to recommend Sterling Slo-Speed Electric Power Drives.*

**STERLING SLO-SPEED**



**OUTSTANDING FEATURES:**

Simplified gear system — balanced design — compact — rugged — highly efficient — abundant lubrication — low output shaft — positive oil seals — Herringbone Rotor — protected — streamlined — direct through ventilation — quiet operation — AGMA speeds — extremely long life — every unit will operate in any position.

**20-page illustrated catalog...** Sterling Speed-Trol, Slo-Speed, Klosd and Klosd-Tite Electric Power Drives. Write for catalog No. 210.

**STERLING**
**ELECTRIC MOTORS**

Plants: New York City 51; Chicago 35; Los Angeles 22; Hamilton, Canada; Santiago, Chile
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## Care of Motor Controls Keeps Machines Running

All motor-control devices have moving parts that cause control failures if they're not properly maintained. If early symptoms of trouble are not noted and corrected, reactions may start that will lead to excessive maintenance costs or possibly complete replacement of the equipment.

### Sources of Trouble

One common source of trouble in motor starters is corrosion and sticking of the overload relay caused by dust and dirt. If the relay is neglected, it may not trip on an overload; consequently, the motor burns out.

Most troubles with control equipment come from improper application, faulty installation, or an inadequate electrical system.

Improper applications are (1) the wrong overload relays for high-inertia starting; (2) wrong wiring connections; (3) wrong capacity, such as failure to derate a starter for jogging duty; (4) wrong enclosures, particularly in severe dusty locations; and (5) wrong starting voltage.

Mounting the equipment in improper locations can cause a lot of trouble. In one plant, for example, the starter was mounted on a wall adjacent to a furnace. The starter was subjected to considerable heat, which caused the overload relay to trip out. In another installation, the starter was mounted on a wall that vibrated severely. As a result, the overload relays frequently tripped the starter contacts.

In each of these installations, the starters were moved to another location where they worked satisfactorily.

### Low Voltage Is Common

Low voltage is a common source of trouble, especially on smaller systems. The trouble shows up either in starting or in running. When it runs at low voltage, the motor draws a higher current and frequent tripping of the overload relay arises.

The voltage may also drop to the point that the contactor rides back on the springs and freezes the trips. Another trouble occurs when the inrush of the motor in starting draws such a high current that the voltage is proportionately lowered. During this starting period, the contactor is not sealed because of the low voltage on the coil; the result is that the contacts weld and freeze.

### Maintenance Practices

Only skilled employees familiar with electrical equipment and the hazards involved should be permitted to service control equipment. All safety precautions on the electrical equipment and the driven machines must be observed. A periodic inspection schedule should be set up and followed. Precautionary maintenance results in savings in replacement parts and in machine downtime.

Dust, dirt, and grease must be removed from the controller periodically. Dust causes mechanical failure and also forms a path between points of different potentials, which results in short circuits.

Dry dust should be blown off. Sticky dust and grease should be removed with a solvent such as carbon tetrachloride. When you use solvents, do not let the coils become soaked. Special attention must also be given to rust and corrosion.

### Check Mechanical Parts

Moving mechanical parts should be free from excess friction. The parts should be tested by hand to locate loose pins, bolts, etc. Wearing parts should be checked for excess wear.

CONTINUED ON PAGE 248

# "So it PUMPS CHOW MEIN

**what does that have to do with my pumping problem?"**

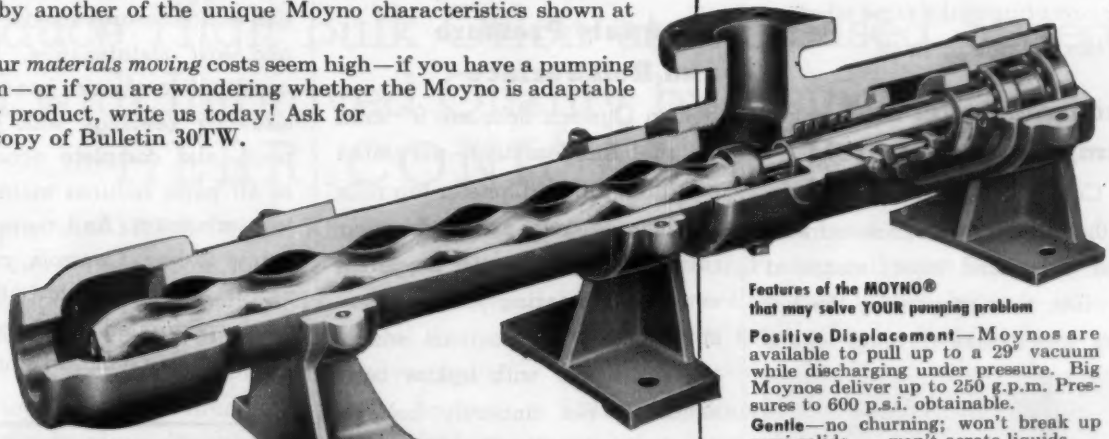
Plenty! That is, if the material you handle, like chow mein, *will go through a pipe.* If it will, the amazing Moyno Pump may be just what you are looking for!

This pump is *different*, without being a prima donna. It is *new*, yet thoroughly service-proved for liquids, pastes, solids in suspension, abrasive-laden slurries, and a long list of other applications.

Perhaps, like the chow mein producer, you need to handle materials smoothly, without squeezing. The answer is *progressing cavities*—found only in the Moyno. Or, your problem might be solved by another of the unique Moyno characteristics shown at right.

If your *materials moving* costs seem high—if you have a pumping problem—or if you are wondering whether the Moyno is adaptable to your product, write us today! Ask for a free copy of Bulletin 30TW.

***About the chow mein application:*** **ladling proved to be too slow and expensive. Ordinary pumps made soup out of the celery. Moynos work perfectly; cost ⅓ less!**



**Features of the MOYNO® that may solve YOUR pumping problem**

**Positive Displacement**—Moynos are available to pull up to a 29" vacuum while discharging under pressure. Big Moynos deliver up to 250 g.p.m. Pressures to 600 p.s.i. obtainable.

**Gentle**—no churning; won't break up semi-solids . . . won't aerate liquids.

**Reversible**—pumps with equal efficiency in either direction.

**Trouble-Free**—self priming; won't cavitate or vapor-lock. Just one moving part—no valves to stick, no pistons to gum up. Built for tough service. Easy to maintain.

**Versatile**—adaptable to washers, drink dispensers, gasoline pumps, oil burners, etc.—or can be custom-designed to meet your requirements.

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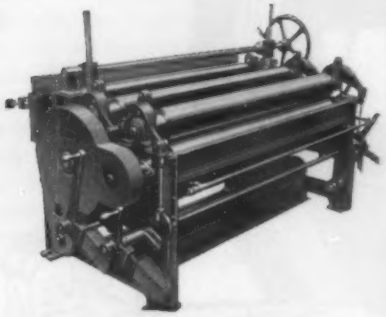
Fractional & Integral H.P. Motors & Generators | Moyno Pumps | Propellair Industrial Ventilating Equipment | Electric Fans | Electric & Hand Hoists & Cranes

# BASIC FACTS *about size boxes*

Save This for your Files

**Cocker Machine & Foundry Co.**
**Gastonia, North Carolina**



A size box has only two functions 1. To thoroughly impregnate the yarn so that the warp will handle right and 2. To remove all surplus sizing to prevent shedding and gumming up in subsequent operations. Both must be performed with the greatest possible efficiency and economy. Following are the reasons why Cocker Size Boxes—backed by over 50 years of practical experience—give superior performance.

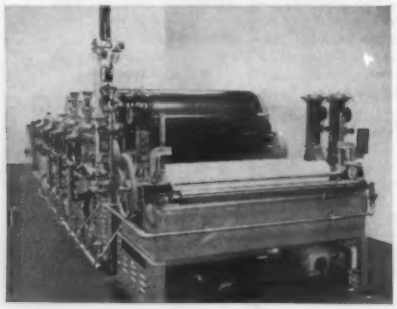
## Thorough Impregnation

### Greater Capacity

Minimizes minor fluctuations in consistence and permits ample working space. Remember, size *consumption* is the same whether the box is large or small.

### Accurate Level and Temperature Control

All Cocker Size Boxes—cotton or synthetic—are steam jacketed with open coils, and inject steam at *4* points, thus preventing the hot spots which may develop where only one steam feed is used. Both temperature and size level are accurately and automatically controlled.

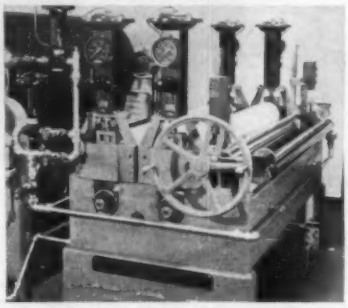


### Adequate Pressure and Roll Surface

Bottom Quetsch Rolls are 9" solid ¾" shell stainless steel—not plated cast iron. Large diameter top rolls combine to give ample dressing surface at high speeds. Large diameter ball-bearing journals permit pressure applications which are impossible with lighter construction. We sincerely believe that the Cocker Size Box is the only one rugged enough to function properly on cottons and spuns at high speed, and to provide the constant and high pressure required on filament yarns.

### Surplus Size Removal

Here again the large rolls, heavy journals, and rugged construction do a superior job, especially at high speeds.



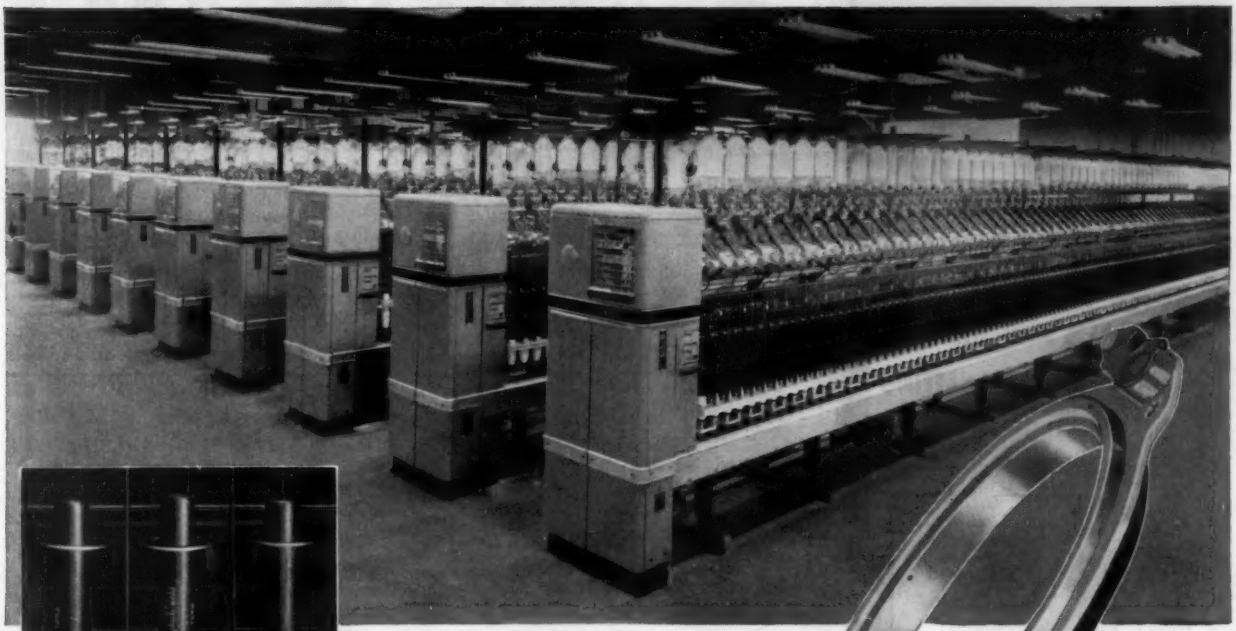
### On Economy

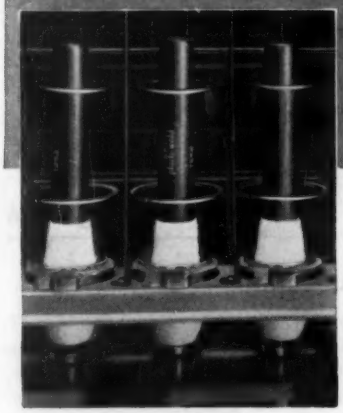
Cocker engineers have consistently avoided expensive innovations of questionable value and have concentrated on rugged construction which assures smooth running and low maintenance. Unitized construction of extra heavy sealed size box bearings with packless seals, and complete accessibility of all parts reduces maintenance to a minimum. And there are no extras to buy. Controls, counters, valves, piping, push button stations, perforated steel boil - out pipes, etc. are standard equipment.

**One Cocker Size Box will do a perfect job on *any* fibre at *any* speed, and *at the lowest possible cost.* Write for full information.**

Agents in New England and Canada:
J. S. Fallow Co., 279 Union St.,
New Bedford, Mass.—offices in Montreal

# DELAWARE MILLS





Says Mr. William C. Appleton, President of Delaware Mills, Inc., "We are well satisfied with our HERR Conical Rings both on spinning and twisting."

Herr Conical Rings are used on these new Saco-Lowell GWALTNEY Spinning Frames. They are also used on Delaware Mills — Universal Winding Company 10B Twisters.

The HERR Conical Ring provides ideal conditions for the spinning or twisting of any yarn.

## Produce High Bulk Orlon at Increased Speeds and with Improved Quality by Using ....

## HERR CONICAL RINGS

Equip with HERR Conical Rings and begin to enjoy these profit making features. You can speed up production, improve quality and lower costs with HERR Conical Rings. You'll gain too, many other advantages. They stop yarn breakage, permit heavier doffs, produce smoother yarns and reduce fly. You'll enjoy cleaner yarn because oil is not thrown off. Frames and room floors stay cleaner. Travelers last longer because oil is carried in capillaries to ring surfaces. Maximum spindle speeds are achieved.

Learn more about these wonder rings. Write today for descriptive literature.

**FOR SPINNING AND TWISTING WORSTED, WOOLEN, RAYON, NYLON, ORLON AND BLENDED YARNS OF ALL TYPES**

**HERR MANUFACTURING CO., INC.**

**309 Franklin St., Buffalo, N.Y.**

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- STAINLESS STEELS
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One of the South's largest and most complete varieties of steel warehouse products is your assurance of immediate shipment. Whether your order is for one piece or a carload, it will get the same rapid handling—24- to 48-hour delivery throughout the South. Next time call Atlantic for Steel and see what service *really* means.

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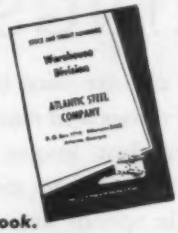


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WAREHOUSE DIVISION

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## MILL MAINTENANCE

Continued from page 244

The bearings on electrical control equipment are designed to operate without lubrication. If they are oiled or greased, dirt will accumulate to cause sluggish action and possible failure.

Overheated parts are always a sign of trouble. However, since various parts operate at different temperatures, it may be difficult to locate overheating trouble. For example, coils, blow-out coils, and other parts of the contactor often operate at a temperature that will boil water; and these parts cannot be touched. But baking or smoking conditions should be given immediate attention.

Loose connections may develop at any time. Therefore, control connections should be checked periodically; and the main-line connections should always be checked at this time.

The best way to prevent grounds is to check cables and conduits with a megger at scheduled times. This checking is especially necessary if water has a chance to collect in the conduit. *Allis-Chalmers Mfg. Co.*

## GOOD WHITES ON 100% ACRILAN

Continued from page 166

cient TSPP to raise the pH to 10.5. The use of an optical bleach in strengths above 0.075% can contribute materially toward decreased lightfastness.

Successful results depend upon observing the following points:

1. The use of sulfuric acid in the amounts recommended is mandatory.
2. There is no advantage in using more Textone, higher temperatures, or greater lengths of time. If the bleaching is carried out by processes previously recommended for acrylic fabrics, unsatisfactory results will be obtained.

## EQUIPMENT & SUPPLY NEWS

Continued from page 236

### Marking Machine

Improvements in the Autoprinter for better marking and coding of multiwall bags and shipping containers have been made by the manufacturer: Industrial Marking Equipment Co., Inc., 454 Baltic Ave., Brooklyn, N. Y. The production rate is up to 3,000 impressions per hour. **(T-38)**

### Carpet Binder

A rotary feed for the Union Special carpet-binding machine, Type 81200 AZ, has been designed by Lawrence M. Stein Co., 815 W. Van Buren St., Chicago, Ill. A 9x12-ft. rug can be bound on four sides without a break in the tape or thread. The machine makes a two-thread double-locked stitch. An adjustable tape and carpet guide simplifies feeding. **(T-39)**

### Sewing Machines

Series F Mauser industrial sewing machines have been developed by Industrie-Werke Karlsruhe A. G., Karlsruhe, Germany. The Series F machines have an enclosed form and are fitted with an automatic lubricating system. Speed is up to 6,000 rpm. A rotating-needle thread regulator ensures a regular stitch formation. **(T-40)**

### Gauge Lights

Improved illuminators for liquid-level gauges are available from Jerguson Gage & Valve Co., 80 Fellsway, Somerville 45, Mass. The illuminators give an even diffusion of light over the entire length of the gauge glass with no glare spots or blinding areas. **(T-41)**

### Insulation Tester

A high-voltage-insulation testing set for d.c. circuits is available from The Hewson Co., 443 Broad St., Newark 2, N. J. The Model 53-A set is suitable for maintenance testing on transformers, motors, wiring, generating sets, etc. Voltage range: 0 to 5 kv. **(T-42)**

### Box-End Printer

By combining decorative and identifying markings in one printing operation, the Markem Model 25AC machine, available from Markem Machine Co., Keene 50, N. H., eliminates inventories of preprinted boxes. The machine will print tradename, trademark, or other design, plus size, width, style or stock numbers, on box ends at rates up to 75 per minute. **(T-43)**

# MARKETS
# RAW MATERIAL
# POWER
# Labor
# TRANSPORTATION

## All the Ingredients
## FOR PROFITABLE TEXTILE PLANT LOCATIONS
## IN WEST VIRGINIA!

In West Virginia there are many communities which offer an unusual combination of advantages for textile operations.

West Virginia is close to the markets of the heavily populated North, East, Mid-West and South.

West Virginia has excellent transportation facilities including a new $133,000,000. turnpike which is destined to be the first link of a vast turnpike network connecting the North and South.

West Virginia is close to power . . . electric, natural gas or coal. All these are at your disposal in an ample supply.

West Virginia is the home of a great chemical industry; in fact, many of today's miracle synthetics were originated here.

West Virginia will provide you with a versatile type of worker, men and women, who know how to use both their head and their hands.

Consider West Virginia . . . for in West Virginia industry is close to everything needed for a prosperous and steady growth.

*We're anxious to help you. Write to: Executive Director, West Virginia Industrial & Publicity Commission, State Capitol Building, Room 800, Charleston 5, West Virginia.*

## Your Best Bet's WEST VIRGINIA

MARKETS • MATERIALS • MANPOWER

AMERICA'S NEW INDUSTRIAL FRONTIER!


For more information, write direct or use Reader-Service post card.

# How Much Per Traveler-Pound?

The true test of a traveler is the number of pounds of top quality yarn which can be spun or twisted with it before it wears out. The more yarn produced, the lower your cost per traveler-pound.

Millmen who keep a sharp eye on production costs always judge travelers on this traveler-pound rating. And that's why so many choose Victor Travelers for spinning or twisting.

Victors consistently cost less per traveler-pound for two reasons. First, because there are no better travelers made, by any test of quality and uniformity. Second, because Victor Service Engineers, all mill-trained men, can quickly grasp your special problems, and come up with the right answer.

They can not only recommend the *right* traveler, but can often make other suggestions for improving your quality and production, — whether you are running conventional fibers, synthetics, or blends.

Plan now to talk to a Victor man about your costs per traveler-pound. Write, wire, or phone the nearest Victor office . . . for prompt service.

*Keep a Step ahead with*

**VICTOR Ring Travelers**

**VICTOR RING TRAVELER COMPANY**

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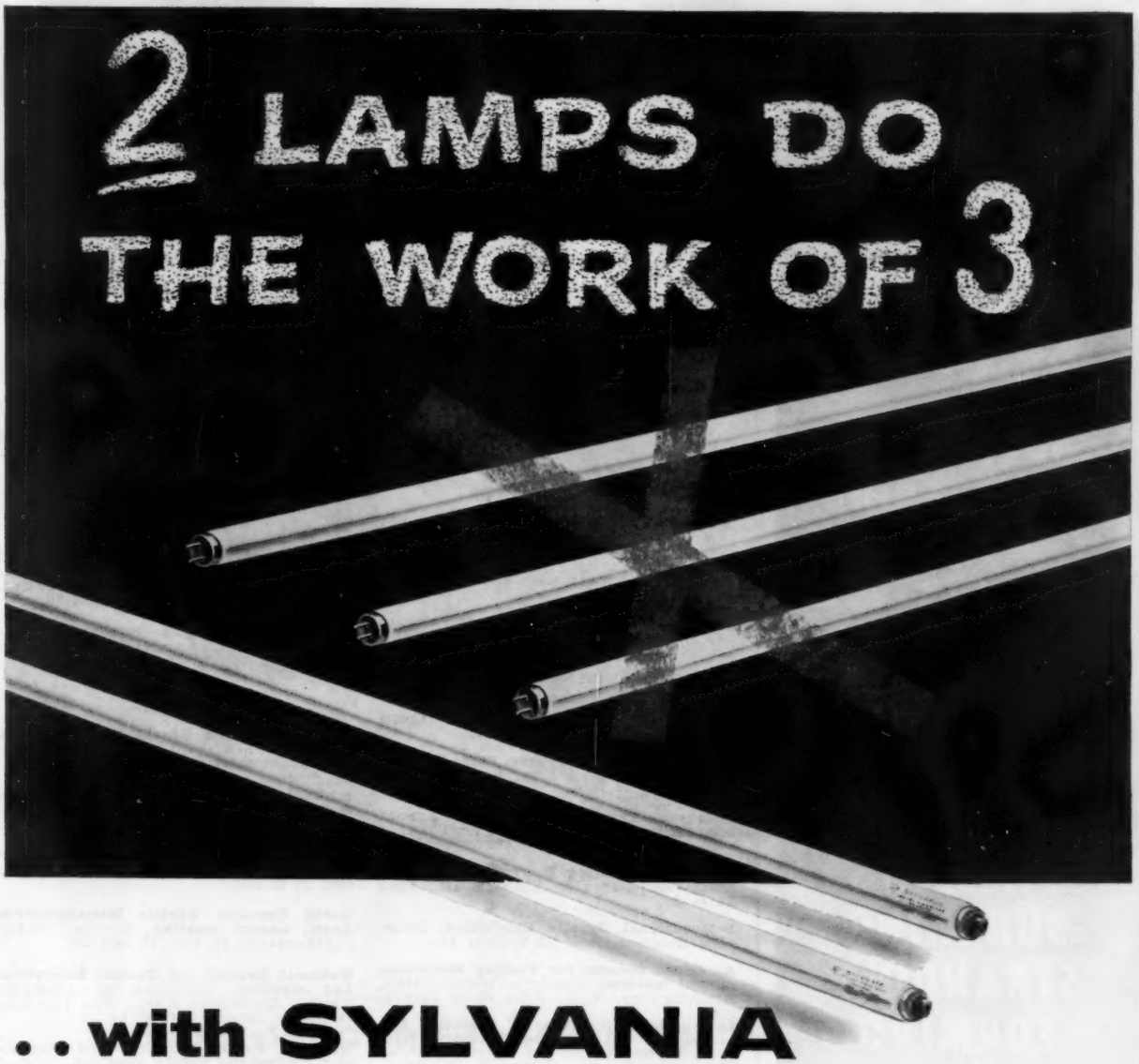
GASTONIA, N. C. . . . . 914-916 East Franklin Ave. . . . . Tel. 5-0891



For more information, write direct or use Reader-Service post card.




# . . . with SYLVANIA
# King-Size, High-Output Lamp

Now here's the fluorescent lamp that offers *more light output than ever before from a single fluorescent lamp*—in the new Sylvania 96", T-12, 100-watt Rapid Start lamp.

Providing as much as 40% more light output than previous 8-foot lamps—this new Sylvania lamp can bring you important installation and maintenance savings.

With this new Sylvania lamp you can now make a two-lamp fixture do the work of a three-lamp fixture . . . for economies when you put them up . . . economies every time you maintain lamps.

For information on this new Sylvania development, write Department 5L-5206.

SYLVANIA ELECTRIC PRODUCTS INC.
Lighting Division, Salem, Massachusetts
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PA.

# Textile World CALENDAR

### June

**Tufted Textile Manufacturers Assn., annual convention,** Park Sheraton Hotel, Washington, D. C., June 2 to 4.

**AATCC, Pacific Southwest Sect.,** Gourmet Restaurant, Beverly Hills, Calif., June 3.

**AATCC, Southeastern Sect.,** Radium Springs, Ga., June 3 and 4.

**Philadelphia Textile Institute, alumni day and reunion and commencement,** Philadelphia, Pa., June 9 to 11.

**AATCC, Piedmont Sect.,** Mayview-Manor, Blowing Rock, N. C., June 10 and 11.

**AATCC, Midwest Sect.,** Lake Lawn Lodge, Delavan, Wis., June 11.

**Iowa Management Course,** State University of Iowa, Iowa City, Iowa, June 13 to 25.

**Southern Textile Association, annual convention,** Mayview Manor, Blowing Rock, N. C., June 16 to 18.

**Materials Handling Exposition,** International Amphitheater, Chicago, Ill., June 16 to 20.

**International Textile Exhibition,** Brussels, Belgium, June 25 to July 10.

**American Society for Testing Materials, annual meeting,** Chalfonte-Haddon Hall, Atlantic City, N. J., June 26 to July 1.

**International Congress of Scientific Research in the Textile Industry,** The Centre Scientifique et Technique de l'Industrie Textile Belge, 24, rue Montoyer, Brussels, Belgium, June 27 to 29.

**American Institute of Electrical Engineers, Textile Subcommittee, summer meeting,** Swampscott, Mass., June 27 to July 1.

### July

**AATCC, South Central Sect.,** Lookout Mountain Hotel, Chattanooga, Tenn., July 29 and 30.

### August

**International Wool Textile Research Conference,** Sydney (four days), Geelong (five days), and Melbourne (five days), Australia, Aug. 22 to Sept. 9.

### September

**Machine Tool Show,** International Amphitheater, Chicago, Ill., Sept. 6 to 17.

**The Fiber Society, fall meeting,** Mass. Institute of Technology, Cambridge, Mass., Sept. 8 and 9.

**AATCC, Southeastern Sect.,** Ralston Hotel, Columbus, Ga., Sept. 10.

**AATCC, Western New England Sect.,** Rapp's Restaurant, Shelton, Conn., Sept. 16.

**Combed Yarn Spinners Assn., annual meeting,** The Homestead, Hot Springs, Va., Sept. 16 and 17.

**Chemical Finishing Conference, National Cotton Council,** Chalfonte-Haddon Hall, Atlantic City, N. J., Sept. 20 and 21.

**AATCC, national convention,** Chalfonte-Haddon Hall, Atlantic City, N. J., Sept. 21 to 23.

**Northern Textile Assn. and National Assn. of Cotton Manufactures, annual convention,** Wentworth-By-The-Sea, Portsmouth, N. H., Sept. 29 and 30.

**Textile Methods and Standards Assn., fall meeting,** Clemson House, Clemson, S. C., Sept. 29 and 30.

### October

**Alabama Textile Operating Executives,** Thatch Hall, Alabama Polytechnic Institute, Auburn, Ala., Oct. 1.

**AATCC, Pacific Southwest Sect.,** Gourmet Restaurant, Beverly Hills, Calif., Oct. 7.

**American Society of Lubricating Engineers,** Antlers Hotel, Indianapolis, Ind., Oct. 10 to 12.

**North Carolina Textile Manufacturers Assn., annual meeting,** Carolina Hotel, Pinehurst, N. C., Oct. 13 and 14.

**National Council for Textile Education, fall meeting,** sponsored by American Textile Machinery Assn., The Larches, Hopedale, Mass., Oct. 17 to 19.

**National Safety Congress and Exposition, industrial safety sessions,** Conrad Hilton, Morrison, and LaSalle Hotels, Chicago, Ill., Oct. 17 to 21.

**AATCC, Philadelphia Sect.,** Penn-Sherwood Hotel, Philadelphia, Pa., Oct. 21.

**The Quartermaster Assn., annual convention,** Conrad Hilton Hotel, Chicago, Ill., Oct. 27 and 28.

**AATCC, Piedmont Sect.,** Hotel Barringer, Charlotte, N. C., Oct. 29.

### November

**American Institute of Electrical Engineers, Mid-Atlantic Textile Conference,** N. C. State College, Raleigh, N. C., Nov. 3 and 4.

**AATCC, Western New England Sect.,** Hartford, Conn., Nov. 4.

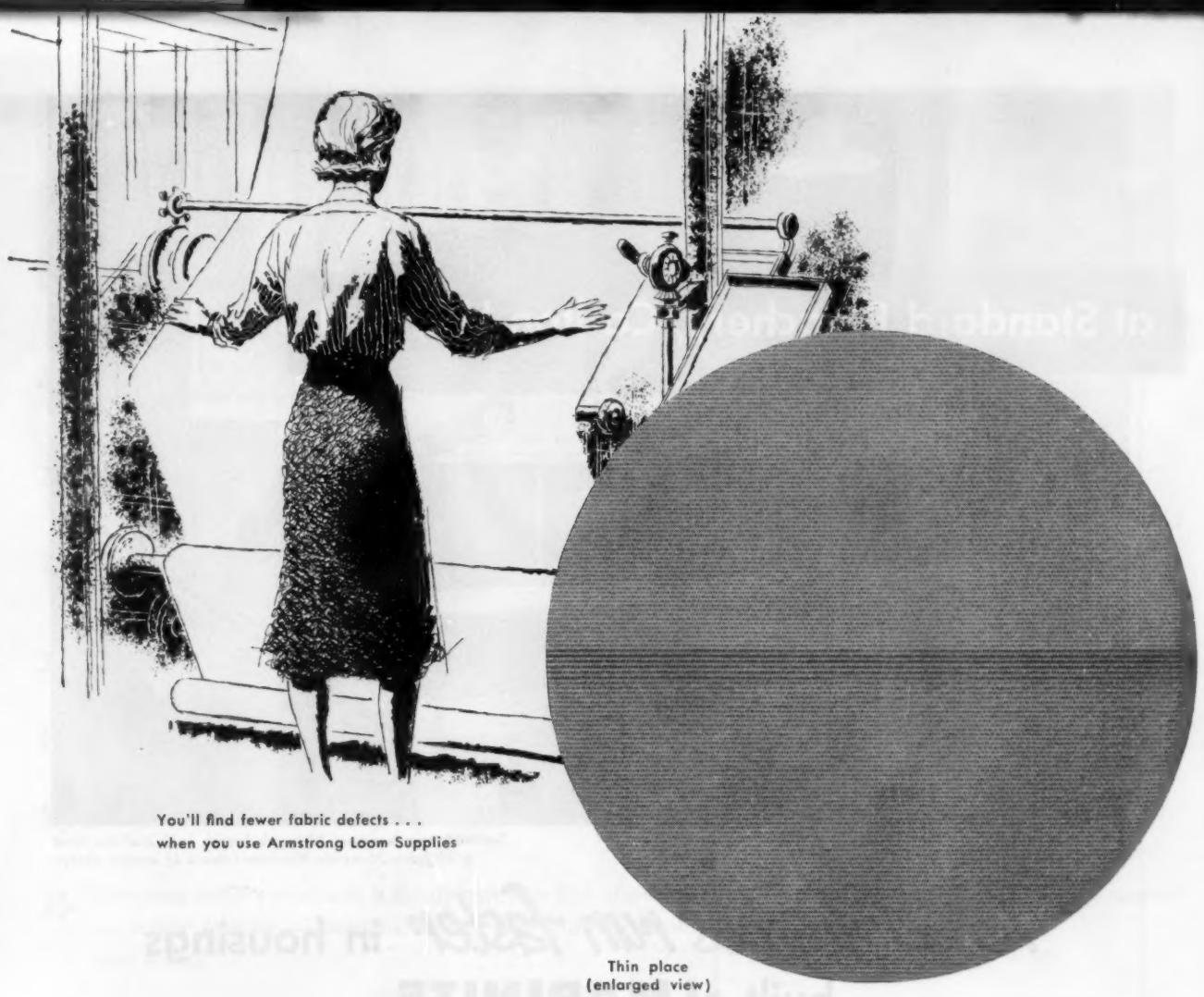
### December

**AATCC, Philadelphia Sect.,** Kugler's Restaurant, Philadelphia, Pa., Dec. 2.

**AATCC, Southeastern Sect.,** Atlanta Biltmore Hotel, Atlanta, Ga., Dec. 3.

**AATCC, South Central Sect.,** Hotel Patten, Chattanooga, Tenn., Dec. 10.

**AATCC, Western New England Sect.,** Rapp's Restaurant, Shelton, Conn., Dec. 16.



You'll find fewer fabric defects . . .
when you use Armstrong Loom Supplies

Thin place
(enlarged view)

# Long-wearing take-up roll covering helps prevent fabric defects like this

To get the firm, even take-up tension you need to prevent "thin places" and other costly fabric defects, use Armstrong NO-732 Take-Up Roll Covering.

NO-732 is a special synthetic rubber compound which provides almost twice the friction generally possible with rubber. Although this material keeps a firm grip on hard-to-hold fabrics, its smooth surface won't mark even the sheerest marquisettes or voiles.

NO-732 comes in handy ribbon form for quick, easy application. It's backed with tough fabric for extra strength and good adhesion to the roll.

Ask your Armstrong representative for a sample of NO-732. Feel its smooth surface. Rub it on your shirt sleeve and notice how little pressure you need to make it grip the fabric. Then arrange for a full test of NO-732 on your looms.

For your copy of the booklet, "Armstrong Textile Roll Coverings and Mill Supplies," write Armstrong Cork Company, Industrial Division, 6906 Dauphin Street, Lancaster, Pennsylvania.

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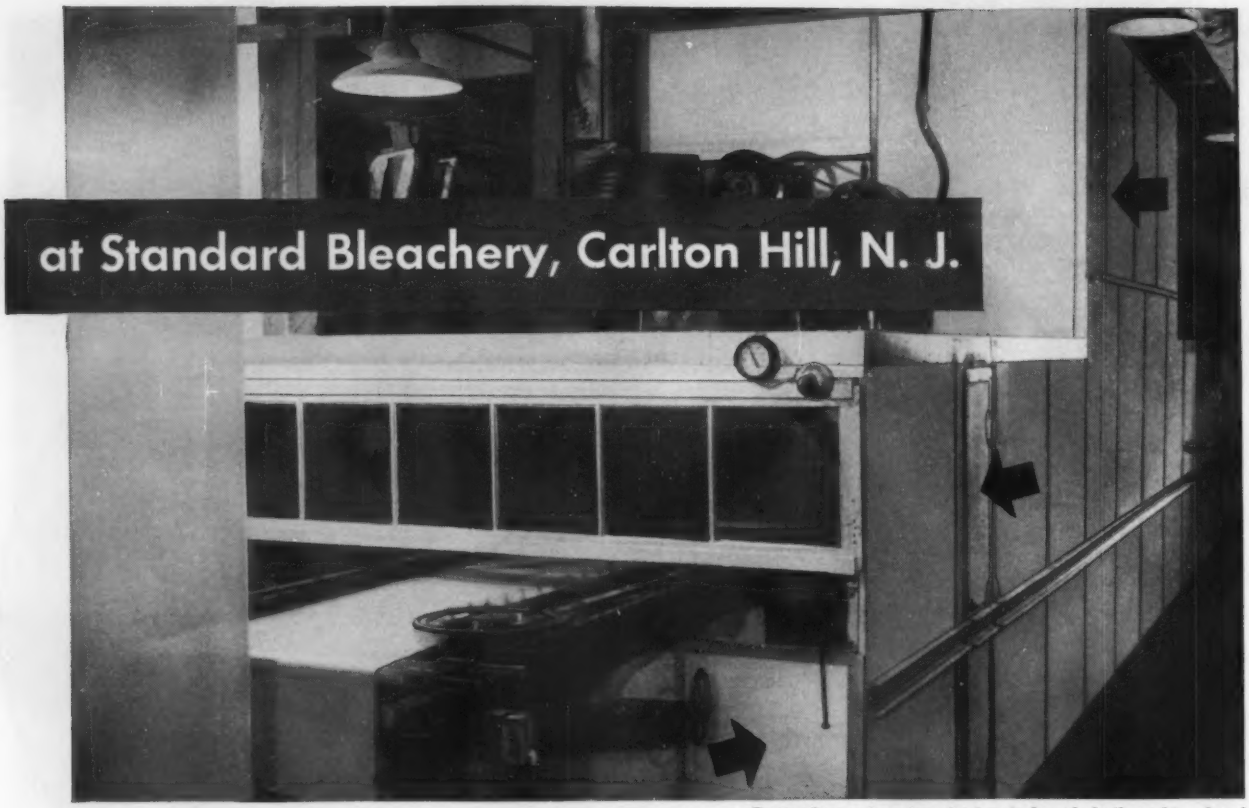
LOOM SUPPLIES
*. . . used wherever performance counts*

**Press-Roll Covering.** New cork-and-sponged-rubber material gives uniform resilience and long, efficient service.

**Loom Brake and Let-Off Strips.** Plain or grooved, these cork-composition strips give long, efficient service.

**Loom Clutch Discs and Inserts . . .** made of cork to maintain friction even under oily conditions.

**Temple Roll Coverings.** Specify long-wearing Accotex® Covering when you order temple rolls from your regular source of supply.




**Tenterframe housing,** *75 feet in length, built and insulated with Johns-Manville Marinite (shown by arrows above)*

# *Tenter frames run faster* in housings built of MARINITE the corrosion-resistant, structural insulating material

Standard Bleachery has obtained 3 important advantages by rebuilding tenterframe housings with Johns-Manville Marinite*, the structural insulating material.

(1) Marinite provides better heat control than the material formerly used . . . thus permitting faster drying and increased machine speeds. (2) Marinite reduces heat losses, cuts down fuel bills. (3) Marinite does not rot or corrode . . . has required no maintenance in over three years of service.

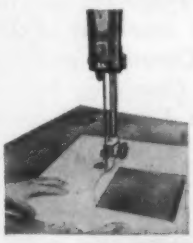
J-M Marinite is an asbestos material which combines structural strength with efficient thermal insulation. It offers many advantages for driers, ovens and other high-temperature equipment.

Marinite *simplifies construction* because equipment can be built and insulated in one step, with fewer structural supports required. Marinite *aids production* because it conserves heat and fuel, provides even heat distribution. Marinite *cuts maintenance* because it resists moisture and steam . . . has virtually unlimited service life . . . needs no finish or protective facing. To learn how Marinite can improve your equipment, write Johns-Manville, Box 60, New York 16, New York.

*Marinite is a registered Johns-Manville trade mark

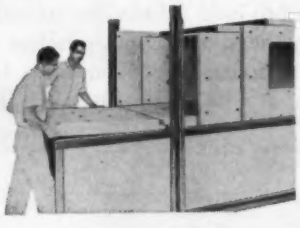
**MARINITE builds and insulates in one operation**

large, structurally strong sheets afford maximum heat control



**MARINITE is easily worked**

may be cut, drilled, shaped and fitted with ordinary woodworking tools



**MARINITE speeds construction**

can be erected without costly equipment—requires minimum angle-iron framing

## Johns-Manville *FIRST IN* INSULATION

MATERIALS • ENGINEERING • APPLICATION



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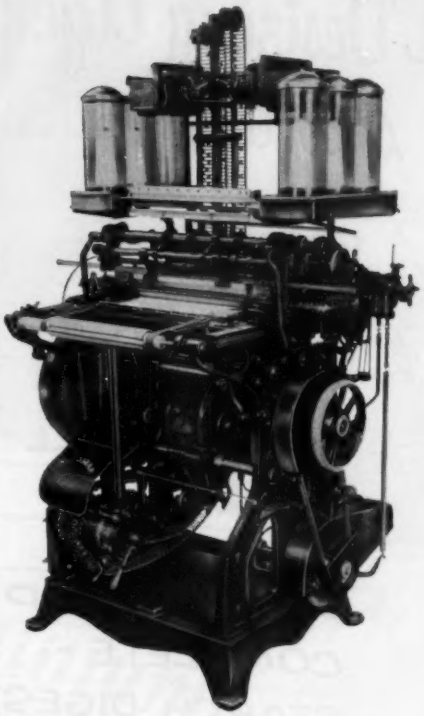
# ADD UP THESE GOOD POINTS—

- One operator can attend 24 to 30 machines — producing the maximum per eight hours.
- Each machine completely assembled and adjusted at factory.
- Being single section, no production time is lost due to idle sections.
- Narrowing and widening changes are completely automatic.
- No maladjustment due to temperature changes.
- Needle breakage is unusually low.
- The sheer hosiery produced is tightly knit with high elasticity — longer wearing — beautiful to see, lovely to touch *and easy to sell!*



## AND YOU'LL FIND THE TOTAL IS 75

**THE FULL FASHIONED HOSIERY MACHINE FOR THE HIGH-GAUGE, HIGH-PROFIT MARKET . . . BY**

**WILDMAN** *makes the machines that tend to their own knitting.*

WILDMAN MFG. COMPANY, NORRISTOWN, PA.

**MANUFACTURERS OF: FULL FASHIONED HOSIERY MACHINES; CIRCULAR MACHINES FOR OUTERWEAR, UNDERWEAR, SPORTSWEAR, TRIMMINGS; STOP MOTIONS**

# A Desizing Agent should be...

- ☆ EASY TO USE
- ☆ ECONOMICAL
- ☆ SAFE ON ALL FABRICS
- ☆ A QUICK AND COMPLETE STARCH DIGESTER
- ☆ DEPENDABLE

(EXSIZE-T MEETS ALL OF THESE REQUIREMENTS)

## Desize with EXSIZE-T

PABST BREWERIES

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Industrial Products Division
221 N. La Salle St., Chicago, Ill.

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Textile World

## NEWS about SUPPLIERS

**ALLIED CHEMICAL & DYE CORP., NATIONAL ANILINE DIV.**, New York, N. Y.—Has named W. Howlett Gardner to the Chemical Sales Dept., where he will prepare technical literature and serve as a technical representative. . . . **ALLIS-CHALMERS MFG. CO.**, Milwaukee, Wis.—Has elected Robert S. Stevenson president. Harold M. Schudt has been elected president of Canadian Allis-Chalmers Ltd. . . . **AMERICAN CYANAMID CO.**, New York, N. Y.—Has appointed J. M. Duckett manager of the Textile Resin Dept., North American Cyanamid Ltd. . . . **ARROW NEEDLE CO.**, Manchester, N. H., a subsidiary of Textile Machine Works, Reading, Pa.—Has awarded the contract to Blanchard Stebbins, Inc., Manchester, for a new building on South Willow St. . . . **BORDEN CO., CHEMICAL DIV.**, New York , N. Y.—Has appointed Herbert H. Clarke, Jr., executive vice president. . . . **BRAINARD STEEL DIV., SHARON STEEL CORP.**, Warren, Ohio—Has named Jack V. Donner Eastern regional sales manager and Earl J. Goetz Midwestern regional sales manager. . . . **CARBIDE & CARBON CHEMICALS CO.**, New York, N. Y.—Has transferred its New England office to the new Union Carbide & Carbon building in Needham Heights, Mass. . . . **CELANESE CORP. OF AMERICA**, New York, N. Y.—Has named George Ewald manager of the

**HAROLD G. BLACK (left) has been named head of the Southern sales office of Proctor & Schwartz, Inc., Philadelphia, Pa. The Charlotte, N. C., office will handle all equipment sales in the Southern states. BENJAMIN R. EBERSMAN (center) has been named executive vice president of Hemphill Co., Pawtucket, R. I. HERBERT GLEITZ (right) has retired as president of Marquette Metal Products Co., Cleveland, Ohio.**

newly created industrial-sales department of the textile division. K. C. Loughlin has been named vice president and general manager of the market-development department. . . . **CHEMSTRAND CORP.**, New York, N. Y.—Has named J. Fred Murray to the newly-formed fabric-development department. . . . **W. D. DODENHOFF CO.**, Greenville, S. C.—Has named J. C. Whitehurst special sales engineer. . . . **ERIEZ MFG. CO.**, Erie, Pa.—Has purchased the Niagara magnetic-separator business and equipment of Richmond Mfg. Co., Lockport, N. Y. . . . **GEIGY CHEMICAL CORP.**, New York, N. Y.—Has transferred its New England operations to Newton Upper Falls, Mass. . . . **GOODYEAR TIRE & RUBBER CO., CHEMICAL DIV.**, Akron, Ohio—Has named John S. Brice field representative in the Southeast, with headquarters in Atlanta, Ga. . . . **HEMPHILL CO.**, Pawtucket, R. I.—Has named Kenneth W. Smith, treasurer; Paul E. Howard, superintendent of service, Theodore T. Toole,

**HIGH DUTY ALLOYS LIMITED**

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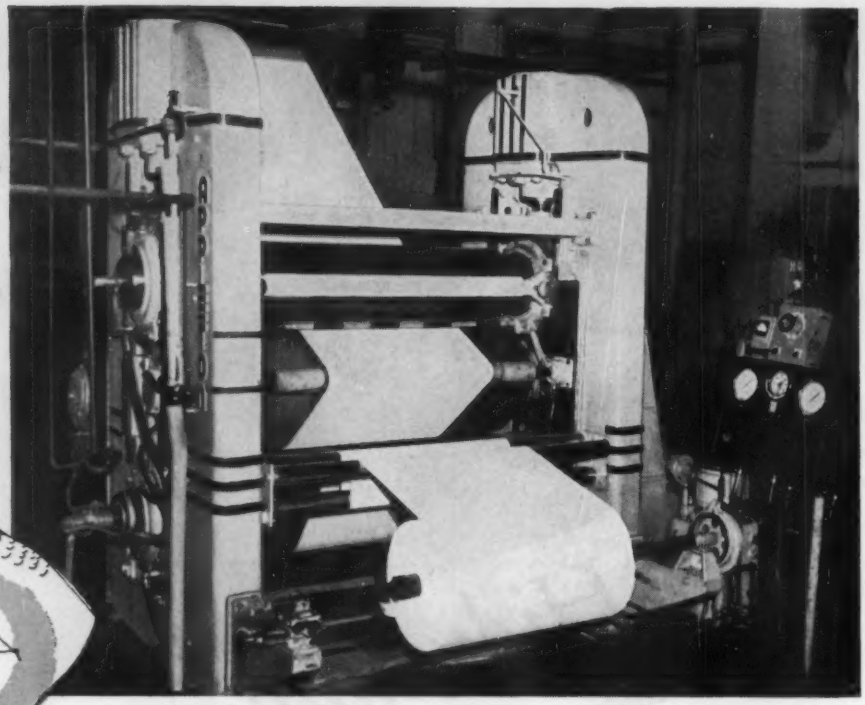

Here is an 80 Ton Appleton 3 Roll Calender in operation

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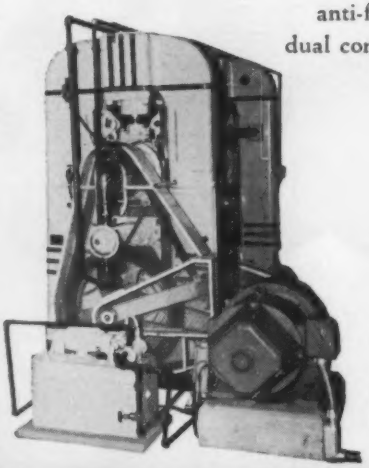

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**Solvay Quality** is the result of combining the nation's finest alkali manufacturing facilities with over 70 years of production know-how.

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# Look to NOONE for the Newest Slasher Cloth Developments

At last--an entirely *new* Slasher Cloth, with a well-cushioned body that assures far better slashing of yarn . . . unexcelled starch penetration . . . and greater resistance to abrasion! Extra high tensile strength minimizes tearing. Chemically treated--*at your option without extra charge*--to hold shrinkage at a minimum . . . combat chemical attack and increase service life. Made only from precision-blended, long length, finely selected wools, with rigid quality control in manufacture.

## . . . and for All Your Industrial Textile Requirements

✓ **CLEARER CLOTH** . . . all wool or cotton back; highest quality—yet, low in price.

✓ **ROLLER CLOTH** . . . complete range of types, sizes, weights; all wool or part cotton.

✓ **LAPPING CLOTH** . . . cotton warp; either all wool, or part synthetic filling.

✓ **OTHER SPECIALTY WOVEN FABRICS** . . . developed at your request.

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## NEWS ABOUT SUPPLIERS — Continued

Jr., director of sales, Decatur Cunningham, sales representative, all in the Southern territory. . . . **KIDDE MFG. CO., INC.**, Bloomfield, N. J.—Has appointed David L. Friday to head the company's Southern sales office in Gastonia, N. C. . . . **LINCOLN ENGINEERING CO.**, St. Louis, Mo.—Has named John E. Renner vice president in charge of sales. . . . **LOCKWOOD GREENE ENGINEERS, INC.**, New York, N. Y.—Has moved to new quarters at 41 E. 42nd St. . . . **LUNKENHEIMER CO.**, Cincinnati, Ohio—Has elected Melvin W. Pauly vice president in charge of sales. . . . **MACBETH CORP.**, Newburgh, N. Y.—Has awarded the contract to Fred J. Brotherton, Inc., Hacken-

**WILLIAM B. FLOYD (left) has been named testing-equipment manager of Uster Corp., Charlotte, N. C. WALTER A. GARRETT (center) has been named sales-manager of steel strapping for Brainard Steel Div., Sharon Steel Corp., Warren, Ohio. MATTHEW J. QUIGLEY (right) has been named New England district manager of Textile Colors Div., Interchemical Corp., Hawthorne, N. J.**

sack, N. J., for a new plant in Newburgh. . . . **McKIERNAN-TERRY CORP., TEXTILE DIV.**, Harrison, N. J.—Has appointed John R. Schenck and Alexander F. Schenck as representatives, with headquarters in Charlotte, N. C. . . . **NATIONAL RING TRAVELER CO. and STERLING DIV.**, Pawtucket, R. I.—Have appointed H. Dorsey Lanier sales representative in Georgia and Alabama. He will be located in Shawmut, Ala. . . . **NOPCO CHEMICAL CO.**, Harrison, N. J.—Has elected Ralph Wechsler president. . . . **PENNSYLVANIA SALT MFG. CO.**, Philadelphia, Pa.—Has named Hugh C. Land head of the Industrial Chemicals Div. . . . **PERFECTING SERVICE CO.**, Charlotte, N. C.—Has purchased Precision Gear & Machine Co., Charlotte, N. C. C. B. Bookout has been named sales manager and Everett Allen, plant manager. . . . **SOUTHERN STATES EQUIPMENT CORP.**, Hampton, Ga.—Has named L. O. Talley sales representative in Texas, Oklahoma, Arkansas, and Louisiana. . . . **STERLING ELECTRIC MOTORS, INC.**, Los Angeles, Calif.—Has appointed John R. Howell vice president in charge of sales. . . . **TWIN DISC CLUTCH CO.**, Racine, Wis.—Has appointed Jack N. Yetter sales manager for the General Products Div. . . . **TYER RUBBER CO.**, Andover, Mass.—Has appointed Frank Emmett general sales manager. . . .

**H. O. EHRISMAN (left) has been appointed general sales manager of the Foxboro Co., Foxboro, Mass. W. CHESTER COBB (center) has been elected president of Arnold, Hoffman & Co., Inc., Providence, R. I., succeeding Edwin H. Arnold, who has been named chairman of the board. ERIC R. HERBERTSON (right) has been named commercial vice president of Arnold, Hoffman.**

*Getting Things Done—Fast!*

CROMPTON RICHMOND COMPANY INCORPORATED FACTORS

Factoring derives from the latin verb Facere: getting things done fast and efficiently. That fits Crompton Factoring like a glove — very efficient and fast in turning our clients' receivables into cash where it does them the most good.

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Crompton Factoring frees you of all credit risk . . . and all receivable bookkeeping . . . of the need to seek "outside" capital . . . of the time and cost involved in collection. All these become our "headaches."

*The Human Factor*

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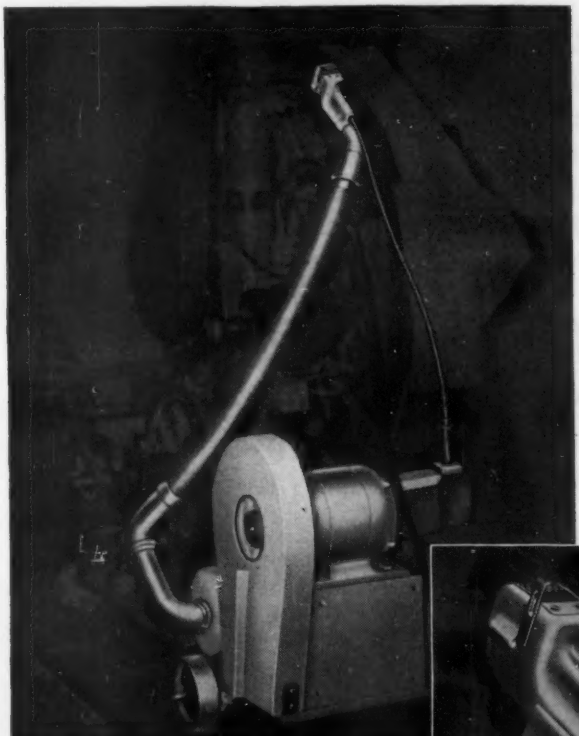

**SAVINGS FOR DYEING & FINISHING PLANTS—**

**REDUCE GREY ROOM COSTS WITH**

# TRIM-MASTER

**CHAIN THREAD CLIPPERS**

This compact unit saves the time consuming and expensive separate operation of cutting apart and trimming the chain thread joining one piece of goods to another. Trim-Master is placed directly behind the sewing machine on your portable butt seamer. Seamed goods pass over the clipper head and the chain threads are *automatically* drawn in and close clipped — all timed to the speed of your butt seamer. Safe to operate, it cannot damage the fabric. Automatic operation reduces costs, increases profits.

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Small or large quantities vats, tanks, roller hoods, platform trucks, etc., manufactured to your specifications. *Details on request.*

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P. L. Piercy.....128 Hudson St., Spartanburg, S. C.
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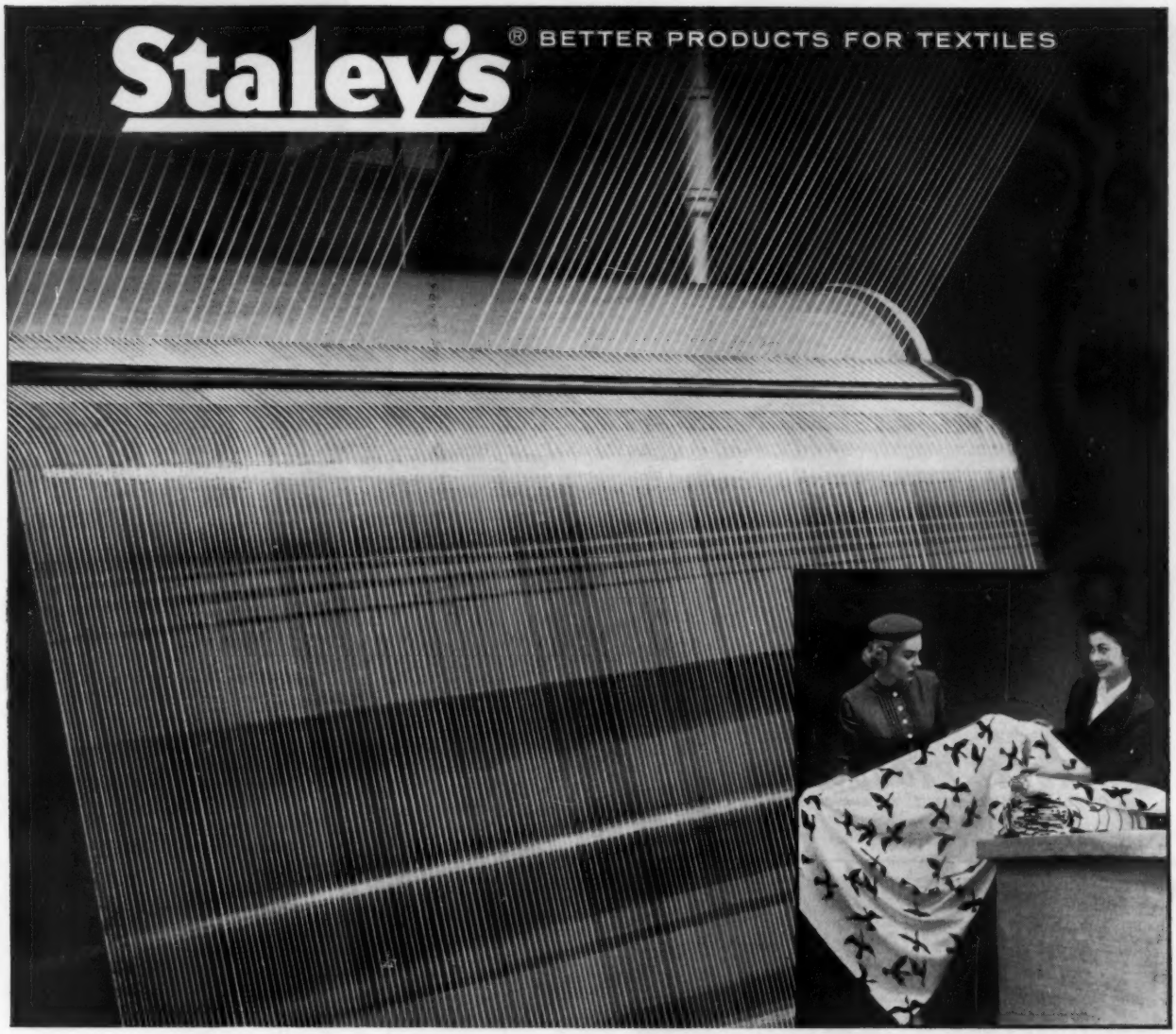

# Higher weave-room efficiency...higher profits with Staley's Eclipse Sizing Starches

## *Southern textile mill cuts costs... boosts output with an assist from Staley's technical staff*

Low weave-room efficiency was stealing profits from this mill at a fast rate. End breakage in the loom caused dollar loss in machine downtime, lost man-hours, and disruption of production and delivery schedules.

The problem was given to a Staley Technical Sales Representative. After checking conditions carefully, he recommended Staley's Eclipse Starch as a more effective sizing starch, and suggested several changes that would give plant operators closer control over production.

When his recommendations were put into practice, the results were excellent. Weave-room efficiency jumped . . . end breakage was cut to a minimum . . . and orders were filled on time. This success is *not* unusual. Your expert Staley Technical Sales Representative can help you solve the problems that are stealing your profits. See him now.

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Static sabotages equipment and production. Alert and profit-wise companies protect their operations by insisting on safe Oxy Cold Bars . . . for effective cost-cutting static elimination.

Replace dangerous, inadequate and messy static elimination with the time and money saving advantages of Herbert Oxy Cold Bars!

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## How Metallizing saves money in textile mills

**cuts machine repair costs 80%—**
**cuts equipment "down-time"—**
**permits reduced spare parts stocks**

**Practically any worn machine part—repaired for only 15 or 20% of replacement cost—in minutes and hours, instead of days or weeks.**

**Worn Equipment and Parts**

| | |
|---|---|
| Drive shaft journals | Top rolls, necks and centers |
| Roll journals and surfaces | Slasher roll surfaces and journals |
| Spindle tops and whorls | Blanket roll journals |
| Calender rolls and journals | Sand roll surfaces and journals |

**The list of metallizing users in the textile field reads like a Blue Book of the industry. Here are just a few:**

| | | |
|---|---|---|
| Cannon Mills | Deering-Milliken | Bib Mfg. Co. |
| Dan River Mills | Greenwood Mills | Bruck Mills (Canada) |

**For further information see our 8-page Bulletin in Sweet's File for Plant Engineers, or write for special free bulletin "Whip Waste with Metallizing in Textile Plants."**

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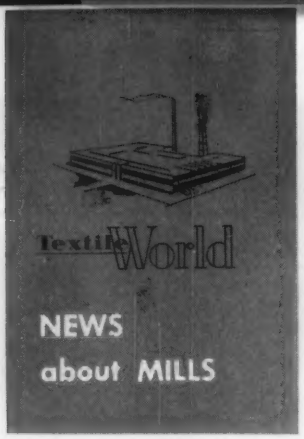
In Great Britain: Telephone: EDGEWOOD 4-1300
METALLIZING EQUIPMENT COMPANY, LTD.—Chobham near Woking, England


## COTTON MILLS

**Aleo Mfg. Co.,** Rockingham, N. C., is planning a modernization program that will cost over $500,000. Plans call for a new card room, spinning-room machinery, and additional drawing equipment. An order has been placed for 12x16½ Saco-Lowell FS-2 roving frames. Saco-Lowell 495, Duo-Roth spinning change-overs for 132 frames and skeletonized creels have been purchased.

**Burlington Industries, Inc.,** Greensboro, N. C., has purchased Mooresville Mills, Mooresville, N. C. The equipment includes 253 cards, 450 broad looms, 1,664 narrow looms, 47,472 ring spindles, and 6,592 twisting spindles.

**Canadian Spool Cotton Co. Ltd.,** Montreal, Que., is building an addition to its mill at the corner of Pius 9th and Notre Dame St. E. Concrete Construction Ltd. is the general contractor; Wood, Blachford & Shipp is the architect; Wood & McAdam is the consulting engineer.

**Collins & Aikman Corp.,** New York, N. Y., has purchased Mayfair Chenille Co., Inc., Calhoun, Ga., in order to enlarge its production of tufted products. William H. Sparks will be general manager of this division.

**Dixiana Mills, Inc.,** Dillon, S. C., has started work on two additions that will provide for a new steam plant and a 35,000-sq.-ft. addition to the present plant. The entire project is expected to be completed about July 1. Daniel Construction Co., Greenville, is the general contractor; and Chas. T. Main, Inc., Charlotte, is the architectural engineer.

**Monarch Mills,** Union, S. C., is installing 126 new looms and adding 30 spindles to its Lockhart Plant, Lockhart, S. C. More than $1,000,000 is expected to be spent in the mill this year for new and improved equipment.

**Needletuft Rug Mills,** Springdale, Ga., is completing a $2,000,000 expansion program that will give the plant a capacity of 5,000,000 sq. yds. annually.

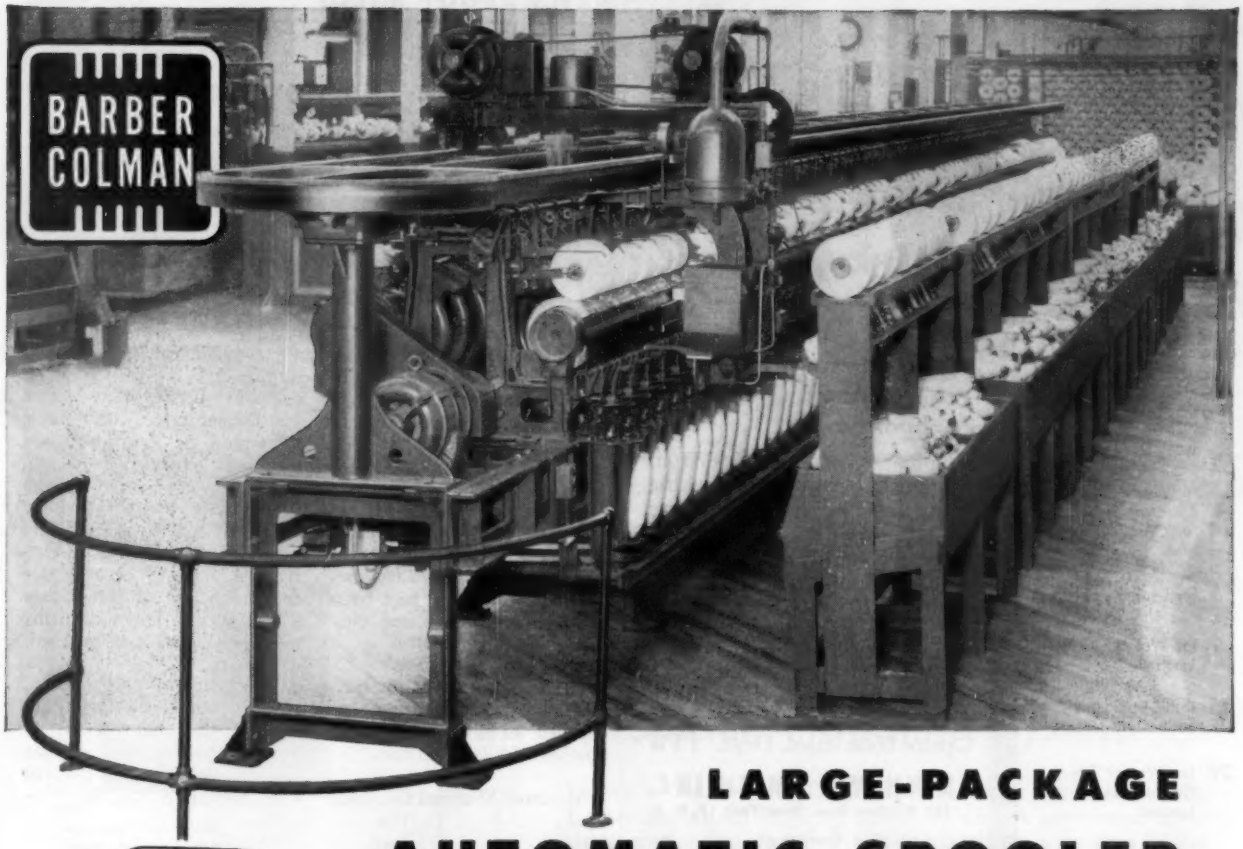
**Ojay Mills,** Calhoun, Ga., plans to build a 12,000-sq.-ft. addition to its tufting plant to house the shipping department and for storage. New machinery and tufting equipment will be placed in the portion of the existing structure now used by the shipping department as a storage room.

**F. W. Poe Mfg. Co.,** Greenville, S. C., is completing the construction of a 45,000-sq.-ft. one-story addition to its weave room. Potter-Schackleford Construction Co., Greenville, is the architect.

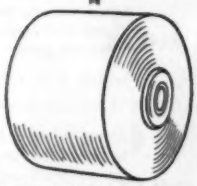
**Trent Cotton Co. Ltd.,** Trenton, Ont., will build a 1,500-sq.-ft. concrete-block addition to its plant on Pelham St., Trenton. William Steenburg, Trenton, is the contractor. The combing department will be moved into the new addition.

**Utica & Mohawk Mills,** Clemson, S. C., a unit of J. P. Stevens & Co., is building a 93,000-sq.-ft. addition for storage. The cost will be about $250,000. Daniel Construction Co., Greenville, is the contractor.

**White Horse Mill,** Div. of Maverick Mills, Greenville, S. C., will build a 30,000-sq. ft. extension to its present weave room in which 400 additional looms will be installed. Daniel Construction Co., Greenville, is the contractor. Completion of the addition is expected soon.




# LARGE-PACKAGE AUTOMATIC SPOOLER



**LARGE PACKAGES HAVE ADVANTAGES IN THE STEPS THAT FOLLOW SPINNING**

The new Type "D" Barber-Colman cheese holds 6½ lbs., which is 120,000 yards of 24s yarn, or 2½ times as much as the standard Type "C" cheese. This gives more slasher beams per cheese, even in the 40"-head size, and thus more loom beams per set. *This increase in loom beams per set, and the consequent reduction in creelings per week, can provide substantial cost reductions in many mills.* Similar advantages are available in the twisting.

In accord with the trend toward larger packages, the new Barber-Colman Type "D" Automatic Spooler offers advantages of special design for greater production and better product. While the machine resembles the familiar Type "C" in general appearance, many details have been changed and improved. These include new methods of handling bobbins, new drive and support for the cheeses, new yarn guides and cleaning devices, new vacuum system, added safety arrangements, new means for by-passing a running thread, and various others. All the way through, this new machine is built to fit the modern methods of up-to-date mills. *Consult your Barber-Colman representative for full details.*

## USE BARBER-COLMAN INSPECTION AND SERVICE

For *all* your Barber-Colman machines, be sure to call on the Service Department of your nearest Barber-Colman office. The men who staff this organization are specially trained and equipped, with a wealth of experience in checking, maintaining, repairing, and modernizing all types and models of Barber-Colman equipment. They are backed by alert main and branch offices who see that they are supplied with complete and reliable parts and information.

**AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES**

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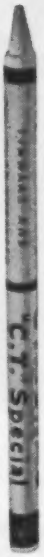


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You'll find out how to fight slime. How to prevent it from fouling up spray jets, lines and tanks. Discover easy ways to clean finned coils of air washers; aluminum plates and screens; glass filters. How to descale cold diffusers. We'll be glad to send you this booklet. It's FREE! Write Oakite Products, Inc., 52D Rector Street, New York 6, N. Y.

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## NEWS ABOUT MILLS — Continued

### WOOLEN AND WORSTED MILLS

**Bachmann-Uxbridge Worsted Corp.,** Talladega, Ala., will expand facilities in its plant. New machinery is being purchased. The weaving department will be increased 25%. About 75 additional employees will be hired.

**Brownsville Woolen Mills,** Brownsville, Ore., recently destroyed by fire, is being rebuilt. The corporation plans to have its new plant completed in August.

**Hargo Woolen Mills, Inc.,** New Bedford, Mass., has acquired the old Keene Silk Fiber Mill property at Keene, N. H., and is moving all its facilities to this location as part of a $250,000 expansion and consolidation program.

**Heritage Carpet Mills, Inc.,** Chattanooga, Tenn., has changed its name to Roxbury Southern Mills, Inc.

**Montrose Worsted Co., Inc.,** Woonsocket, R. I., has started worsted weaving operations. A number of looms have been purchased. Leslie R. Strickland heads the new firm.

**Pacific Mills,** Boston, Mass., is now known as Pacific Mills, Craft Div., a division of Burlington Industries, Inc. Plans are now under way for modernization and expansion. The company plans to reactivate 100 Draper looms, and 50 new Crompton & Knowles looms have been purchased.

**Alexander Smith, Inc.,** New York, N. Y., has leased the plant of Kingston Mills, Cartersville, Ga., to be used for the production of tufted rugs and carpets. Additional tufting machines have been installed.

**J. P. Stevens & Co., Inc.,** North Andover, Mass., has changed the name of M. T. Stevens & Son Co. to the Woolen & Worsted Div. of J. P. Stevens & Co., Inc.

### SYNTHETICS MILLS

**Clarksville Mill,** Clarksville, Ga., has purchased three Universal Winding Co. ring twisters for its throwing department.

### KNITTING MILLS

**Robert Bruce Knitwear Co.,** Philadelphia, Pa., has changed its name to Robert Bruce.

**Catalina, Inc.,** Whittier, Calif., will open its new knitting plant late this month. The 38,000-sq.-ft. brick building adjoins Catalina's swimwear unit. New full-fashioned-sweater knitting machines will be installed.

**Chalmers Knitting Co.,** Amsterdam, N. Y., will install 12 new highspeed 64-feed Supreme knitting machines. Current production includes men's T-shirts and briefs and a line of women's and children's knit underwear.

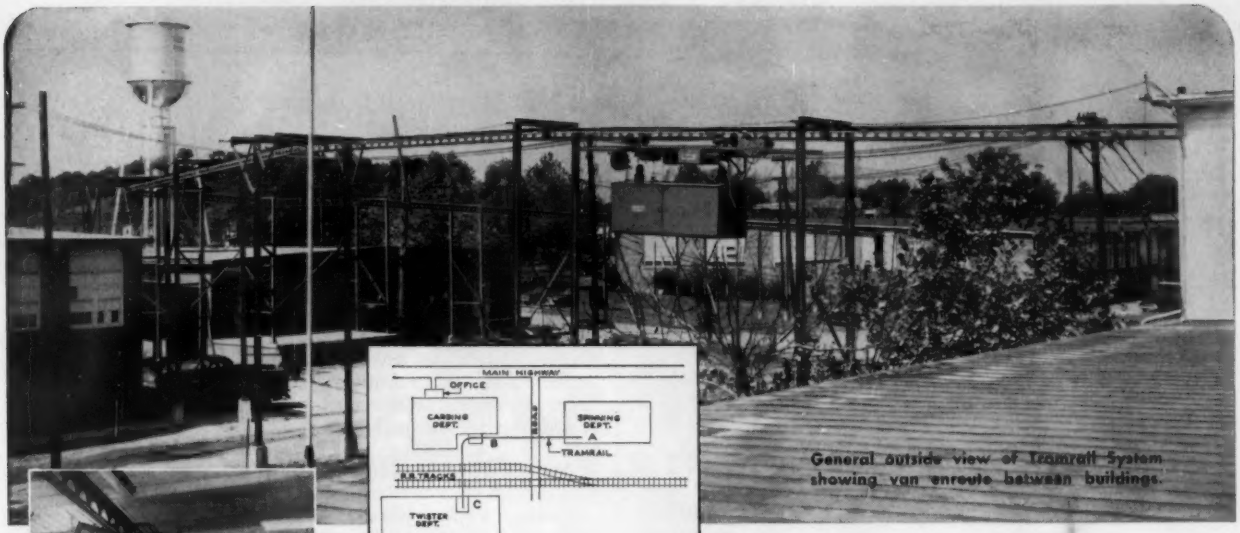
**Claussner Hosiery Co., Inc.,** Paducah, Ky., has awarded the contract for a 9,000-sq.-ft. addition. Another contract, to be let later, will enlarge the building by 7,000 sq. ft. This new addition will house 300 knitting machines in its newly planned seamless-hosiery department.

**Gentle Hosiery Mill** has begun operations at its new Booneville, Miss., plant on hosiery for men, women, and children. The new Booneville plant is a consolidation of both knitting and finishing operations, the latter being moved recently from Huntsville, Ala.

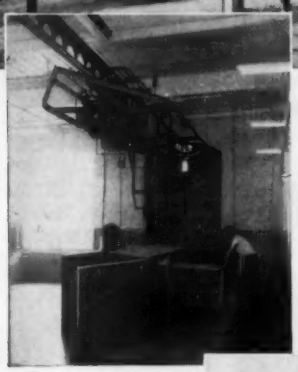
**Glenn Scot Knitwear, Inc.,** Philadelphia, Pa., has been formed to manufacture men's and women's sweaters. Albert H. Goldstein is president and treasurer.

**Hazel Knitting Co.,** Spruce Pine, N. C., has begun hosiery manufacture in the former property of Robbins Knitting Co. The installation of 14 automatic knitting machines will be completed soon. Early delivery of 16 additional machines of this type is expected.

**Kenosha Full-Fashioned Hosiery Mill,** Kenosha, Wis., will not move its operations to the South. A new and expanded production program will enable

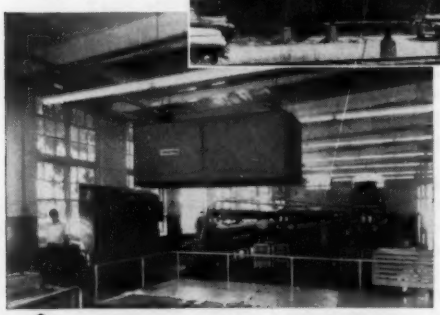



General outside view of Tramrail System showing van enroute between buildings.



Loading four truck loads of spools and bobbins into van in Spinning Department.

Van entering penthouse on roof of Twister Department.



Starting load on way by depressing wall button.

# **Integrates** Three Separate Mills ***Into One Efficient Plant*** With Automatic Handling System

In South Gastonia, N. C., Textiles, Inc. took over three mills, now known as Pinkney Mills, which are separated by a street and a railroad and which had been operated in the past as wholly separate mills. To integrate the operations, it installed a Cleveland Tramrail automatic dispatch system to carry materials between the buildings. This made it possible to concentrate on carding work in one building, spinning in another, and twisting in the third. Roving is dispatched from the Carding Department to the Spinning Department, and bobbins, spools and cheeses of yarn made in the Spinning Department are dispatched to the Twisting Department over the Tramrail system.

The handling work requires no extra help because it can be done quickly by people in the three buildings along with their regular work. All that is necessary is to push trucks in and out of the Tramrail van, close the van doors and press a button which starts the unit on its way.

Rain or shine, the system works without complaint. It connects with floors at different elevations and travels up and down grades over street and railroad. When the van reaches its destination, it lowers at once and stops automatically.

Management advises that the savings effected by use of the automatic dispatch system will pay for the equipment within a short period.

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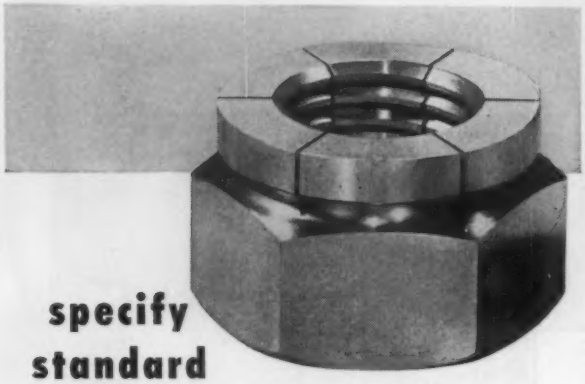
**OVERHEAD MATERIALS HANDLING EQUIPMENT**



specify standard

**FLEXLOC® SELF-LOCKING NUTS**

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| FLEXLOC | one-piece, all-metal construction | lock and stop nut in one |
| DESIGN | resilient locking segments | every thread carries its full share of load |
| FEATURES | controlled locking torques | |

**DO YOU KNOW?** Because they are of one-piece, all-metal construction, FLEXLOCS can be used in temperatures to 550° F. Nuts lacking this design feature have more restricted temperature ranges and applications. And FLEXLOCS are stocked in a full range of sizes from #4 to 2" by authorized industrial distributors. Write for Bulletin 866. STANDARD PRESSED STEEL CO., Jenkintown 35, Pa.

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TEXTILE MILL CRAYONS

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Made in 18 brilliant Colors in both large and small sizes.

Write for free marking guide!

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the mill to remain at its present location.

**Maryon Hosiery Mills,** Carrollton, Ga., has started work on a $2,000,000 expansion program. Additional equipment will be purchased and mill facilities will be expanded. The equipment to be added will enable Maryon to devote its entire production to the manufacturing, styling, and marketing of all types of boys' hosiery.

**Minmar Hosiery Mill, Inc.,** Graham, N. C., has been incorporated with an authorized capital of $100,000. Principals are W. G. Hutcheson, Minnie J. Hutcheson, and Rose D. Bain, all of Graham.

**Oneita Knitting Mills** has closed its Utica, N. Y., plant and moved the bulk of its operations to Andrews, S. C.

**Pasolds (Canada) Ltd.,** Dorion, Que., a subsidiary of Pasolds Ltd., Langley, Bucks., England, plans to expand the capacity of its 40,000-sq.-ft. plant.

**Princeton Knitting Mills,** Watertown, Conn., has awarded a contract for improvements in its mill to Torrington Building Co., Torrington, Conn., at a cost of about $15,000.

**Ronnett Knitwear, Inc.,** Brooklyn, N. Y., has been formed for the manufacture of classic and novelty interlock sweaters for the jobbing trade.

**Roosevelt Mills, Inc.,** Manchester, Conn., has purchased three four-section full-fashioned knitting machines for the production of full-fashioned sweaters.

**Sharnay Hosiery Mills,** Philadelphia, Pa., has started production of 60-gauge and 51-gauge, 30-den. stockings.

**Stroudsburg Hosiery Mill,** Stroudsburg, Pa., is installing 16 Reiner 60-gauge, full-fashioned machines for the production of women's hosiery.

**Wiscasset Hosiery Mill,** Albermarle, N. C., plans to construct a new addition in the near future. The new two-story wing will contain nearly 27,000 sq. ft. of floor space. The new addition will be used for expansion of the mill's processing and shipping facilities.

## DYEING & FINISHING PLANTS

**R. W. Bates Piece Dye Works,** Garnerville, N. Y., has been purchased by Industrial Products of America, Paterson, N. J., and Braka & Co.

**Capitol Piece Dye Works, Inc.,** Garnerville, N. Y., is being equipped to print and emboss cotton, nylon, and Dacron fabrics. A four-color roller print machine has been installed. Two more print machines and embossing machines will be installed.

**Consolidated Textile Co., Inc.,** is expanding operations in its North Adams and Taunton, Mass., plants. Mercerizing equipment is being installed in the Windsor Print Works, North Adams, and discharge printing and soaping equipment at the Taunton plant. The two plants will have an annual finishing capacity of about 125,000,000 yds.

**Jeffries Processors,** Philadelphia, Pa., has opened a new dyeing and finishing plant at Arroyo, Puerto Rico, for Dacron, Orlon, and Acrilan fibers, and nylon sweaters. The one-story plant contains 12,000 sq. ft.

**Mount Hope Finishing Co., Inc.,** Butner, N. C., has purchased a one-story brick-and-steel building at Henderson, N. C., that contains 138,000 sq. ft. The plant will be used in the dyeing and finishing of synthetic fabrics.

**Newport Finishing Corp.,** Fall River, Mass., has purchased a three-story mill adjacent to its property. The company's present facilities will be expanded.

**Plymouth Dye Works, Inc.,** Paterson, N. J., has resumed operations under the new name of Plymouth Dye Co., Inc. The plant has a capacity of 150,000 pieces daily. Leo A. Bohl is president of the new company.

## Your cue to quality in textile chemicals

Whether you are kier boiling, scouring, bleaching, sizing, dyeing, printing or finishing, a Rumford textile chemical will help you get better results — and when Doctor Q is on the label you know it's a Rumford Quality product.

### RUMFORD SEQUESTERING AND SCOURING AGENTS

**QUADRAFOS®** (Sodium Tetraphosphate)

**METAFOS*** (Sodium Metaphosphate)
Excellent sequestering agents, dispersing agents, deflocculants and assistants for emulsifiers and detergents.

**QUADRASUDS** — an anionic built detergent for all textile scouring and soaping — no additives needed.

**QUADRENE** — Liquid soap containing solvents. Jig, beck, kier caustic saturator.

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**#65 PLISSE** — fine particle — fast swelling.

**#80 PLISSE** — ready to use — gum and 50% caustic — convenience with controlled uniformity.

**#200 VAT**—15%—25% higher color yield.

**#400 COLD WATER SOLUBLE** — low solids — can be combined with other thickeners in one operation.

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**QUADRATEX** — combined chemically with the urea and melamine resins — lasting body and firmness. Excellent for embossing.

**QUADRASET 105** — thermoplastic resin — durable without curing.

**QUADRAPEL R** — renewable, low foaming, water-repellent — excellent emulsion stability — easily applied.

**WARP SIZE CL** — gives tough, flexible film; reduces loom lint. Can also be used as a finish.

**QUADRA-SOFT AN** — Non-yellowing anionic fabric softener.

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**NITRIC ACID** **SULPHURIC ACID**

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# CUTTING PADS

Made of tough, "self-healing" TYGON plastic, COLONIAL Cutting Pads —

**1. Reduce die wear and breakage,**
**2. Lessen rejects from double cutting due to "bounce back",**
**3. Increase production through quiet, less fatiguing operation.**

Long wearing, dustless, and usable on both sides, COLONIAL Cutting Pads are widely used in machine, or hand cutting of rubber, leather, plastics, cork, candy, paper, fibre, felt cloth, foils, or light gauge metals.

Colors are black and tan. Standard durometers are 87 to 97, others on special order. 8 standard sizes range from 20"x20" to 40"x40" in area, and from ¼" to 1" in thickness.

*Write, today, for full information and prices!* 203C-1

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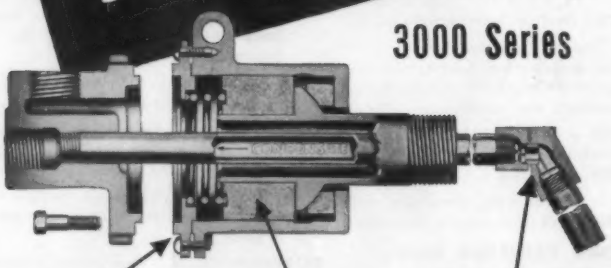
# Johnson Joint with SYPHON ELBOW

3000 Series



**ASSEMBLY PLATE** — Holds internal parts in position when head is removed.

**SELF-SUPPORTING** — Needs no external supports of any kind.

**SYPHON ELBOW** — Permits use of straight pipe for syphon. Can be inserted or withdrawn right through the joint.

***WRITE FOR FACTS***

on this Series 3000 Johnson Joint and the syphon elbow. Remember Johnson Joints have written an unmatched service record . . . are first choice among mill men and machinery makers alike . . . and can fit all operating needs.

**The Johnson Corporation**
**814 Wood St., Three Rivers, Mich.**

Textile World

## NEWS about MEN

**Perley Adams** has been named night superintendent at Lebanon Woolen Mills, Lebanon, N. H.

**David E. Arthur** has been promoted to general manager of manufacturing of the Craft Fabric Div. of Pacific Mills. He will be located at the Halifax, Va., plant.

**N. M. Ayers, B. W. Worley,** and **H. A. Millis, Jr.,** have been elected to the board of Adams-Millis Corp., High Point, N. C. **Harry Bell** has been elected vice president in charge of manufacturing.

**John F. Byrne** has been elected controller of Princeton Worsted Mills, Trenton, N. J.

**Robert H. Carson** has been elected to the newly created position of executive vice president of Carwood Mfg. Co., Winder, Ga.

**H. B. Clyburn, Jr.,** has been named night superintendent at Linn Mills Co. and Corriher Mills Co., Landis, N. C.

**David Cohen** has been elected vice president of M. Lowenstein & Sons, Inc., New York, N. Y.

**Jerry Collins** has been named vice president in charge of operations at Mock, Judson, Voehringer Co., Greensboro, N. C. **J. D. Higgins** has been named superintendent.

**James L. Eskridge** has been named a vice president of Burlington Industries, Inc., Greensboro, N. C.

**Howard S. Fletcher** has been elected a director of Barnes Worsteds, Inc., Plymouth, Mass.

**Bryan Gibson** has been named personnel manager at American Thread Co., Sevier, N. C.

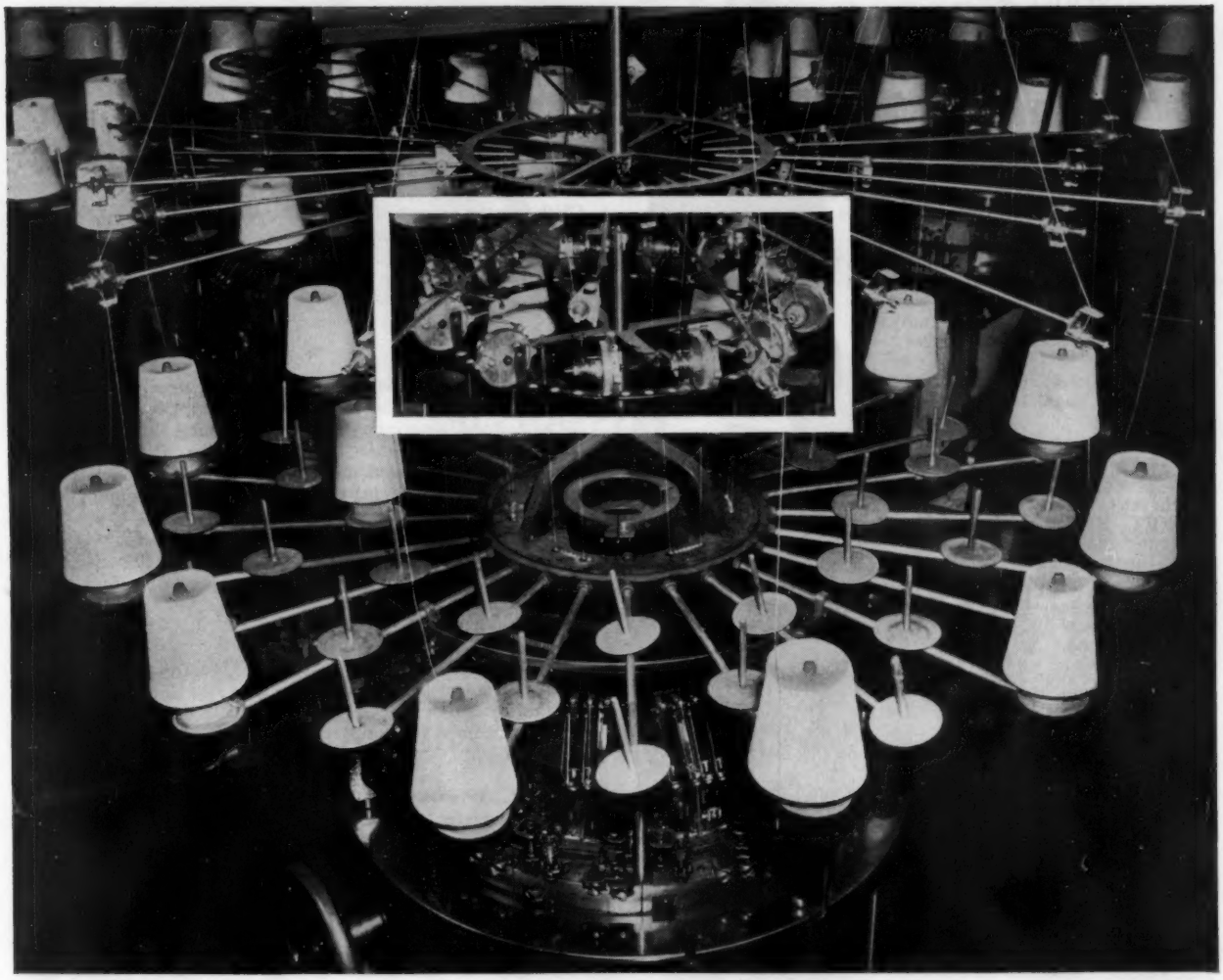
**Benjamin H. Griswold, III,** has been elected a director of Bigelow-Sanford Carpet Co., Inc., Thompsonville, Conn.

**Lewis M. Heflin** has been elected president of Cone Mills, Inc., a subsidiary of Cone Mills Corp., Greensboro, N. C. **Saul F. Dribben** has been elected chairman of the board. **John E. Field** has been elected secretary-treasurer and **Harvey Raymond,** assistant vice president.

**Tom R. Johnson** has been named overseer of the weave room of the Eva Jane plant of Avondale Mills, Sylacauga, Ala.

**MORRIS L. HIRSH has been named executive vice president of Star Woolen Co., Cohoes, N. Y.**

**IRA J. KAUFMAN has been named a director of Dan River Mills, Inc., Danville, Va.**



# "ORLON"*–how it's tension-controlled at the Hudson County Knitting Mills

The Hudson County Knitting Mills, who make sweaters of DuPont "Orlon", recently installed Kidde Standard Compensators — one for each yarn feed — on their Jacquard Knitting Machines.

Mr. William A. Zeug of Hudson County Knitting Mills reports, "Since installing these Kidde Compensators we can control fabric widths much more accurately. We have no more uneven stitches due to irregular tension, no more back-winding of cones and less frequent stitch cam adjustment."

Reports like this, while amazing, are not unusual. Because Kidde Compensators, used by more than 500 leading textile mills throughout the nation, cut costs and produce a better product wherever they are installed! They can do the same for *you*. For more information on Kidde Compensators, write Kidde today.

**A DuPont acrylic fibre*

OTHER APPLICATIONS!

Kidde Standard Compensators, installed on Circular Knitting Machines will also solve tension problems in the running of rubber yarns, stretch-type nylon yarns, and most spun and continuous filament synthetic yarns!

**Kidde** (K Kidde)

*The word 'Kidde' and the Kidde seal are trademarks of Walter Kidde & Company, Inc.*

**Walter Kidde & Company, Inc.**
**691 Main Street, Belleville 9, New Jersey**

You'd ask

"CAN YOU SEE TO WORK?"

—if he reported with a patch over one eye.

But what happens when one of your workers LOOKS normal, but SEES with only one eye? Many have this trouble.

Plant managers who are now checking, to make sure every employee's eyes are *working efficiently TOGETHER*, report 44% fewer accidents . . . 20% less spoilage . . . 45% lower training costs . . . increased production.

**NO plant can afford workers with UNHAPPY EYES.** Make a test of modern visual checking . . . no cost or obligation.

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Send booklet telling WHAT PLANTS HAVE ACCOMPLISHED WITH VISION SCREENING.

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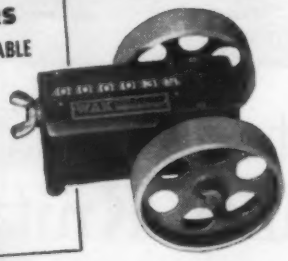
USE WAK COUNTERS
RUGGED ACCURATE DEPENDABLE

We build single, double and triple pick counters; yardage, rotary and special counters—non-reset and reset.



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RAYON PLANTS & TEXTILE MILLS

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## NEWS ABOUT MEN Continued

**D. W. Johnston** has been named plant manager of the Drummondville, Que., division of Dominion Textile Co. Ltd. **R. W. Kolb** has been appointed assistant plant manager. **H. C. Clark** has been named superintendent of the Montreal mill.

**Victor H. Josephson** has resigned as treasurer and assistand secretary of Avondale Mills, Inc., Sylacauga, Ala.

**Kay Kanahadian** has been elected chairman of the board of Hollywood Knitting Mills, Inc., Los Angeles, Calif. **Ted Cowen** has been elected president and **Joseph J. Stein,** production manager.

**John T. Lawless** has been elected to the newly created position of chairman of the board of American Felt Co., Glenville, Conn.

**John D. Long** has retired as assistant treasurer of P. H. Hanes Knitting Co., Winston-Salem, N. C.

**Fred C. Livermore** has been elected treasurer of Kaufman Knitting Co., Minneapolis, Minn.

**Laster Martin, William Gellin,** and **Robinson Verrill** have been elected to the board of Bates Mfg. Co., Lewiston, Me.

**K. C. Mills** has been named special assistant to the general manufacturing manager of Dominion Textile Co. Ltd., Montreal, Que. **Raymond Charlebois** has been named superintendent of the Sherbrooke, Que., mill; and **P. E. Malo** has been named superintendent of the Mt. Royal mill, Montreal.

**William W. Murphy** has been named chief chemist and assistant foreman of the bleach and dye department of Roanoke Mills, Inc., Roanoke, Va.

**Burt Myron** has been elected a vice president and director of Holeproof Hosiery Co. of Canada Ltd., London, Ont.

**Fred D. Noblett** has been named manager of the Beaunit Mills, Inc., plant at Humacao, Puerto Rico.

**W. Hicks Nadler** has been elected to the board of Mohawk Carpet Mills, Inc., Amsterdam, N. Y.

**Winthrop E. Prescott** has been named director of purchasing at the Kendall Co., Boston, Mass., succeeding **Ralph S. Howland.**

**W. W. Rader** has resigned as executive vice president and treasurer of Mooresville Mills, Mooresville, N. C.

**L. B. Ramsey** has been named vice president in charge of production at Belding-Corticelli Ltd., Montreal, Que. **D. F. Pollock** has been named secretary-treasurer and **R. H. Alston,** comptroller. **F. H. Murphy** has been named production manager at the St. Johns, Que., mill.

**Ermin P. Ruf** has been elected to the board of Wayne Knitting Mills, Fort Wayne, Ind.

**J. E. Sarazin** has been named overseer of finishing at Charlottesville Woolen Mills, Charlottesville, Va.

**W. Seigler** has been elected to the board of Erwin Mills, Inc., Durham, N. C.

**John J. Smith** has been elected a director of Chicopee Mfg. Co., Chicopee, Mass.

**W. Kirkwood Stringfellow** has been named general manager of the J. P. Stevens & Co. plants in Rock Hill and Great Falls, S. C., and Gastonia, N. C. He will be located in Rock Hill.

**John E. Watte, Jr.,** has been named general manager of Catalina, Inc., Los Angeles, Calif.

**Joseph A. Waugh** has retired as head of the quality-control department of Hanna Pickett Worsted Mills, Rockingham, N. C.

**H. O. Williams** has been named assistant treasurer of Adams-Millis Corp., High Point, N. C., in addition to his duties as assistant secretary.

**Phillip R. Williams** has been named assistant cotton superintendent at Firestone Textiles, Gastonia, N. C.

**John D. Willingham, Jr.,** has been elected president of Egan Cotton Mills, Atlanta, Ga.

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**are superior**

**Ask to see this new high production napper in operation.**

**Also investigate our complete machinery and equipment for cutting and brushing of:**

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*Agents:* **for Southern States Messrs. PARROTT & BALLENTINE, Greenville, S. C., 510 South Carolina National Bank Building for Northern States:**

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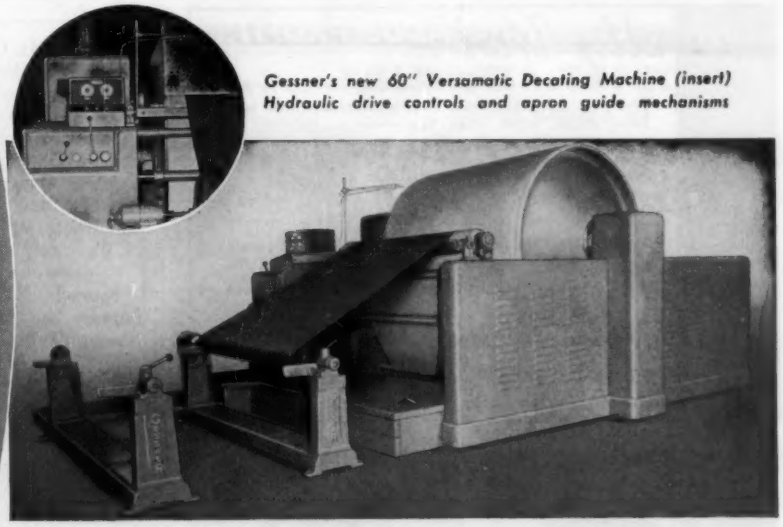
# FRANZ MÜLLER

## MASCHINENFABRIK · M.-GLADBACH ·

**2nd INTERNATIONAL TEXTILE EXHIBITION, Brussels, from June 25 to July 10, 1955, Hall 5, Combitex-Stall**

Do Your Semi Decating with a

**GESSNER VERSAMATIC**



*Gessner's new 60" Versamatic Decating Machine (insert) Hydraulic drive controls and apron guide mechanisms*

**DAVID GESSNER CO.**

WORCESTER, MASSACHUSETTS

*Canadian Representative:* **W. J. Westaway, Montreal, Quebec; Hamilton, Ontario.**

Gessner's new Versamatic Semi-Decating Machines built with 36", 48" and 60" diameter cylinders, with five important features, combine the utmost in decating quality and quantity.

1. Hydraulic drive and infinite speed variations, and controlled pressure roll; 2. High operating speeds made possible by (a) the automatic apron tension control, (b) the automatic apron guider; 3. Foolproof, internally heated steaming cylinder; 4. Throttle steam with automatic cycle; 5. 60" Versamatic will decate 8 pieces or more of woolens or worsteds, and upwards of 1000 yards of synthetics per loading.

**Gessner Improved Cloth Finishing Machines mainfain a standard of performance to meet the exact requirements of your cloth finishing.**

# STATIC!

You can eliminate costly static from warpers, slashers, cards, and other machinery. The SIMCO "Midget" guarantees to be the most effective, yet least expensive static eliminator! Write for information.

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*Novelty Yarns*

Any construction to your specifications using any fiber for Men's Wear, Dress Goods, Upholstery, Draperies, Automotive, and so on. Twists, Boucles, Ratines, Knots, Nubs ——

*Neva-Tarn*
*Metallic Yarns*

Non Tarnishing Metallics, all constructions of supported yarns on disposable tubes or cones for Knitting and Weaving into all types of fabrics. Additionally – Metallics combined with Novelties.

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**A. Theodore Abbott,** 74, president of A. Theodore Abbott Co., Philadelphia, Pa.

**Clarence J. Ashmore,** 64, vice president and general manager of Gunter-Ashmore Mfg. Co., Concord, N. C.

**Michael Budzisz,** 72, retired chief engineer of Western Woolen Mills, Milwaukee, Wis.

**John N. Carter,** 78, retired overseer of the slasher department of Poinsett Mill, Greenville, S. C.

**William H. Carter,** 90, president of William Carter Co., Needham Heights, Mass.

**James R. Copland,** 80, president of Copland Fabrics, Inc., Copland Converting & Finishing Co., and Copland-Fowler Industries, all in Burlington, N. C.

**Samuel E. Elmore,** 72 founder and president of the Elmore Corp., Spindale, N. C.

**Vernon Lewis Evans,** 78, president of Jerseys Ltd., Toronto, Ont.

**David E. Goldstein,** 63, president of Buffalo Batt & Felt Corp., Depew, N. Y.

**Arthur J. Grossman,** vice president of C. W. Anderson Hosiery Co., Clinton, S. C.

**Max E. Hayes,** 62, superintendent of Hudson Cotton Mfg. Co., Hudson, N. C.

**Arthur S. Jarrett,** general manager of Highland Park Mfg. Co., Charlotte, N. C.

**Irving Levy,** 63, chairman of the board of Century Ribbon Mills, Inc., New York, N. Y.

**William H. Lister,** 47, president of Colored Worsted Mill, Providence, R. I.

**Charles H. Masland, II,** vice president of C. H. Masland & Sons, Carlisle, Pa.

**Fred T. Nagle,** retired vice president and superintendent of Chipman Knitting Mills, Easton, Pa.

**John J. Rauch, Sr.,** 71, former superintendent of Victoria Cotton Mills, Rock Hill, S. C.

**W. A. Roberts,** 57, president Allis-Chalmers Mfg. Co., Milwaukee, Wis.

**J. Irving Roy,** 44, president of Canadian Cottons Ltd., Montreal, Que.

**Charles J. Shannon,** 59, vice president and a director of Robert & Co. Associates, Atlanta, Ga.

**Irving Shapiro,** 43, president of General Rayon & Silk Dye Corp., New York, N. Y.

**Mrs. Annie Hill Shinn,** executive secretary of Brownhill & Kramer Hosiery, Inc., Philadelphia, Pa.

**Rudolph C. Singer,** secretary of Bamberger, Reinthal Co., Cleveland, Ohio.

**Fred H. Stephen,** 41, supervisor at Erwin Mills, Inc., Durham, N. C.

**Kerney C. Stone,** 67, secretary-treasurer of Louise Knitting Mills, Durham, N. C.

**Charles H. Young, Sr.,** retired superintendent of International Braid Co., Fall River, Mass.

ELECTRIC STOP MOTIONS

"WESCO" TOPS THE WORLD'S BEST KNITTING MACHINES

FOR UNDERWEAR OUTERWEAR HOSIERY

# PRODUCTION WISE - IT'S WESCO

*USED ON ALL THESE KNITTING MACHINES:*

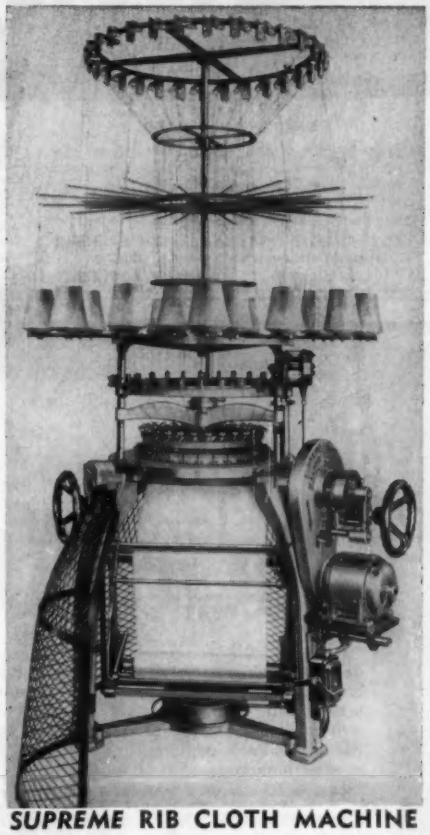
| | | | |
|---|---|---|---|
| Bentley | Edmos | Mellor, Bromley | Stibbe |
| Blackburn | Fidelity | Ordnance Gauge | Supreme |
| Brinton | Jacquard | Precision Knitters | Tompkins Bros. |
| Cooper | Lamb | Scott & Williams | Wildman |
| Crane | Leighton | Stafford & Holt | Wildt |

Manufacturers and knitters all over the world buy and specify Wesco. They know from experience Wesco stop motions get the best out of the machines they build and buy.
Wesco is the "safety-first" word for Superior Knitting. When you purchase new knitting machine—Specify "Wesco" Electric Stopmotions.

**FROM CONE TO NEEDLES IT'S WESCO**

**STOP-MOTION DEVICES CORPORATION**
1471-77 Fulton St. Brooklyn 16, N.Y.

*Another of a Series of Knitting Machine builders. Others to follow*



*SUPREME* RIB CLOTH MACHINE


## When You Change Your Address . .

It will help us keep your copies of TEXTILE WORLD coming to you each month if you will promptly advise us of any change of address.

Director of Circulation
TEXTILE WORLD,
330 West 42nd St., New York 18, N. Y.

Please change the address of my Textile World subscription.

Name .....
Old Address .....
New Address .....
New Company Connection .....
New Title or Position .....


**CALDWELL TANKS—**
**First Choice of the Textile Industry!**

Caldwell offers the industry a complete tank service, including solid Stainless and Stainless-lined wood tanks and tubs, of any shape or size.

If you're thinking of installing or replacing a tank, let our 60 years' experience in building high-grade tanks serve you. *Send for our catalog, today!*

**W. E. CALDWELL CO., Inc.**
2060 Brook St., Louisville, Ky.

Caldwell TANKS AND TOWERS

ALL STEEL **ECONOMY BALING PRESSES**
ALL SIZES FOR ALL PURPOSES
*LARGEST LINE BUILT IN U.S.A.*

ECONOMY BALER CO., DEPT. J ANN ARBOR, MICH., U.S.A.

REPRESENTATIVES:
New York Office: 43 Water St. Philadelphia Office: Drexel Bldg.
Terrell Machine Co., 1200 No. Church St., Charlotte, N. C. Boston Office: 170 Summer St.
Other Sales and Service Branches in most Important Cities.

# CLASSIFIED SEARCHLIGHT SECTION ADVERTISING

## EMPLOYMENT • BUSINESS • OPPORTUNITIES • EQUIPMENT—USED or RESALE

**UNDISPLAYED RATE:**

$1.20 cents per line, minimum—3 lines. To figure advanced payment count 5 average words as a line.

POSITION WANTED undisplayed rate is one-half of above rate, payable in advance.

BOX NUMBERS care of publication count as 1 line additional in undisplayed ads.

**INFORMATION:**

DISCOUNT of 10% if full payment is made in advance for four consecutive insertions of undisplayed ads (not including proposals). EQUIPMENT WANTED OR FOR SALE Advertisements acceptable only in Displayed Style. AN ADVERTISING INCH is measured ⅞ inch vertically on one column, 3 columns—30 inches—to a page.

**DISPLAYED RATE:**

The advertising rate is $12.65 per inch for all advertising appearing on other than a contract basis. Contract rates quoted on request.

**EMPLOYMENT ADVERTISING:**

New Employment Opportunities Section for Displayed ads starting July issue. For further details see announcement in this issue.

*SEND NEW ADVERTISEMENTS to N. Y. Office, 330 W. 42nd St., N. Y. for July issue closing June 11th*

## Textile Development Specialist

Unusual opportunity for man to take charge of Textile Development Section within Corporate Development Group, to promote diversification and growth of national organization through new products and processes. This group reports directly to top management.

The man we seek is probably under 40 years and has a degree in chemistry, chemical engineering or textile engineering. He has about 10 years experience in textiles; preferably in the synthetic textile field. He is thoroughly familiar with textile markets from a sales and market development viewpoint as well as research and production. His duties will include: appraisal of textile markets; consultation on special management problems; analysis and recommendations of new ideas, products or fields for research and development.

*The position is located in metropolitan New York area with some travel involved. If you believe you can qualify for this important position, send complete resume to*

**BOX TW 399, 221 W. 41 St., N. Y. C. 36**

## POSITIONS OPEN

We can place—VICE PRES. of sales for heavy machinery; mgr. full fash. knit goods mill; supt. narrow non-elastic fabrics; cotton batting expert; supt. wstd. yarn mill; supt. rayon-cot. novelty yarn mill; machine shop supt. firm bldg. textile mach.; asst. production mgr. woolens for N. Y. City; asst. supt. worsted cloth mill; wln. cloth supt.; cot. mill mgr. for So. Am.

OVERSEERS for pile fabric plus finish.; wln. card.; throwing; coating and rubberizing; weaving narrow non-elastic fabrics; dyeing flat and pile fabrics; garnetting; cot. ring spin. combed yarns; braiding; cot. piece goods bleach.; cot. piece goods dyeing; overseers and fixers for underwear, sweater and hosiery mills; overseer stitching and sewing knit goods.

SECOND HANDS for wln. card.; cot. warp preparation; rayon weav.; wln. dyeing.

MECHANICAL ENGINEERS; master mechanics; mach. shop foreman; slasher tender; dresser tenders; fixer French worsted combs; loom fixers; pile fabric beamer.

If you are available for a good paying position in the textile field, it will pay you to have your application in our files. We are receiving more inquiries and placing more men than for several months. Negotiations are confidential. No fee to be paid unless you accept employment through our Service.

**CHARLES P. RAYMOND SERVICE, INC.**
294 Washington St., Boston 8, Mass.
Phone: LIberty 2-6547
*Over 55 Years In Business*

## Position With Unusual Opportunity

Young man not over 35 with knowledge of Textiles and some mechanical inclination for position as installation and service technician with textile finishing machinery company. Position has permanency, offers constant challenge with considerable travel. Replies held confidential.

P-6135, Textile World
330 W. 42 St., New York 36, N. Y.

## TEXTILES APPLICATION ENGINEER

A nationally-known up-state New York chemical manufacturer requires an experienced Textile Specialist for application development work in the field of textile finishing.

Requirements are a technical college degree or equivalent with a minimum of five years experience in development work and customer contact. This is an excellent opportunity for an aggressive man and the salary is fully commensurate with position requirements.

*Please reply, giving full details of experience, education, earnings and salary requirements.*

**P-6431,** Textile World
330 West 42nd St., New York 36, N. Y.

**ADDITIONAL EMPLOYMENT ADVERTISING on page 278**

## PROFESSIONAL SERVICES

## DESIGNER

Designer with fabric experience capable of creating good floral designs required by large Eastern national floor covering manufacturer. Write giving training, experience, age and salary requirements to

P-6625, Textile World
330 W. 42 St., New York 36, N. Y.

**SALES REPRESENTATIVE**

Century old national manufacturer has unusual opening for technical salesman. Industrial sales experience to Greige mills and/or synthetic mills required. Eagerness and ability to sell essential. Technical knowledge of textile field useful. Travel required in North Carolina and South Carolina. Our employees have been informed of this advertisement.

RW-6398, Textile World
330 W. 42nd St., New York 36, N. Y.

## PATENTS

Information concerning procedure furnished upon request, without obligation.

**B. P. FISHBURNE**
*REGISTERED PATENT ATTORNEY*
702A McLachlen Bldg. Washington 1, D. C.

*Important Notice!*

# WATCH FOR AMERICA'S BIGGEST AUCTION!

# AMERICAN WOOLEN MILLS

## TO BE SOLD BY AUCTION SOON!!

**MAKE SURE YOU GET OUR FREE CATALOG**

*Write:*

**EDWARD KROCK INDUSTRIES, Inc.**
**2 FOSTER STREET**
**WORCESTER, MASSACHUSETTS**

# FOR SALE

## MACHINERY • EQUIPMENT • REAL ESTATE

## GUILD-NORTHLAND MILLS—LACONIA, NEW HAMPSHIRE

### EXCELLENT MACHINERY FOR THE MANUFACTURING OF WOOLEN YARN AND THE FINISHING AND DYEING OF WOOLEN AND WORSTED CLOTH

**DAVIS & FURBER** 48"—6 Bar Ball Bearing Mixing Picker.
**GIANT PACKAGE J & B SPINNING MULES,** 2½" Gauge, 270 Spindles—1943.
**T-SLOT D&F 48" x 60" ALL IRON WOOLEN CARDS**—Complete with D&F 1947 Double Rub Tape Condensers, Waste-end Blowers, Bramwell Model B Super Feeds, Broadband Intermediate Feeds, Chain Driven Breasts, and Duesberg Peraltas.
**C & K 82" REED SPACE W-2 LATE MODEL 4 x 1 AUTOMATIC LOOMS.** Complete with Automatic Let-off, Worm Take-up, High Front cloth tension roll, removable cloth rolls and motor driven by General Electric 1½ HP motor. 4 Bank Electric Warp Stop Motion.
Whitin-Schweiter Automatic Filling Winders Model MS—Year 1945.
**COMPLETELY STAINLESS STEEL RODNEY-HUNT FULLING MILL**—With 14" face Rubber Rolls Pneumatic Pressure—Motor Driven—Year 1949.
**RIGGS & LOMBARD 8 FT. CLOTH WASHERS**—Rubber Rolls, Stainless Steel Oscillating Pot-eyes—Years 1952 and 1944—Direct driven by Synchro Gear 7½ HP motors.
**COMBINATION CLOTH WASHER AND DYEKETTLE—RODNEY-HUNT—TOTALLY ENCLOSED, STAINLESS STEEL** 10 Ft.—with Hump reel, 1 SS roll and 1 Rubber roll which are Pneumatically controlled—Motor drive, Year 1949.
**RODNEY-HUNT STAINLESS DYE KETTLES TOTALLY ENCLOSED—HUMP REEL MOTOR DRIVES,** 1—6 Ft. Kettle, 1—8 Ft. Kettle, 1—3 Ft. Kettle.
**COMPLETE PADDING RANGE CONSISTING OF 2 SETS RODNEY-HUNT SQUEEZE ROLLS, PNEUMATICALLY CONTROLLED**—4 Pass Stainless Dip Tank, Air Guiders, Double-Beater Scutcher, all motor driven through 2 Reeves Drives.
**DAVID GESSNER VACUUM EXTRACTOR WITH L-5 PUMP AND TANK INCLUDING** Scutcher, all motor driven.
**JAMES HUNTER SINGLE SECTION PIN TENTER CLOTH DRYER, 8 Pass, SS PINS.** All fans are motor driven and Dryer is complete with Blake Guiders, Overfeed, Taylor Automatic Temperature control, Dryer is equipped with Red Ray Gas Burner which raises temperature for Curing and Heatsetting. Dryer has many automatic controls with Panel Board.
**PARKS & WOOLSON 3 BLADE DAVIDSON SHEAR, SERIAL NO. 8742,** complete—with Air Guiders, Swing Folder, 7 Motors and P & W Automatic Seam-Jumper electronically controlled.
**DAVID GESSNER FULL DECATOR, SEMI-DECATOR** 72" x 36", 2 Blade Model A Shear, Voelker Press, Birch Bros. Power Perch with Reeves Drive, Windle Combination Doubling and Open Rolling Machine with **TRUMETER** measuring and printing device, Merrow D3B Wide Stitch motor driven sewing machines, 200 Fluorescent 2 Bulb lights, Lift trucks, Pallets, Cloth Trucks, Machine shop supplies, Complete Laboratory Equipment, and many other items and supplies found in a mill of this type.

**REAL ESTATE**—Consists of Brick and Frame Building with 2—150 HP High Pressure Oil Fired Boilers, 50,000 Sq. Feet Manufacturing Space, located on 2 Acres of land which fronts on Main U. S. Highway 3.

**Itemized Catalogs on request . . . Plant open daily for inspection**

***SEND ALL INQUIRIES TO EXCLUSIVE SALES AGENT***

**TILTON, NEW HAMPSHIRE** — **J. LAURENCE LEWIS** — **TEL. FRANKLIN, N. H.-40**

---

*AVAILABLE*

## OPERATION CHIEF

**Or ASSISTANT in coordination, organization, direction supervision in all departments from raw wool to finished cloth. Up to date in modern equipment in the economical manufacturing of quality fabrics in Woolen and Worsted.**

**Over 30 years mill experience in best known textile mills abroad as in USA, from trainee to executive in charge of manufacturing. Will consider consultant or advisory capacity.**

**PW-6546,** Textile World
330 W. 42 St., New York 36, N. Y.

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**Highly Trained And Experienced**

## TECHNICIAN AND KNITTER-MECHANIC

● With diversified experience here and abroad, desires a position as Production Manager in new or established business. Further details upon request.

**PW-6539,** Textile World
330 W. 42nd St., New York 36, N. Y.

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*AVAILABLE*

## TRICOT MILL MANAGER

**Outstanding capabilities on fabric designing. Modern Production methods and control. Recently developed technique on Knitting Unthrown Synthetic Yarns. 20 years practical experience. Warping and Knitting machinery. Novelty fabrics for immediate promotion. Wishes to re-locate Pennsylvania with Established Organization. References available.**

**PW-6661,** Textile World
330 W. 42 St., New York 36, N. Y.

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## WANTED
### COMMISSION WEAVING

**For 10 Draper Looms. 73" Reed Space. Location: S. C.**

**CWW-6391,** Textile World
330 W. 42 St., New York 36, N. Y.

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*REPLIES (Box No.): Address to office nearest you*
*NEW YORK: 330 W. 42nd St. (36)*
*CHICAGO: 520 N. Michigan Ave. (11)*
*SAN FRANCISCO: 68 Post St. (4)*
*LOS ANGELES: 1111 Wilshire Blvd. (17)*

### *POSITION VACANT*

**Dyer—Especially with background on elastic** fabrics used for girdle and swim suit wear. Write resume of experience, education, age and salary expected to P-6527, Textile World.

### *POSITIONS WANTED*

**Pile fabric mill supt with 30 years experience** in the trade seeks position as supt. or as technician in experimental and/or sample dept. Have styled furniture cloth with sales dept. cooperation. Knows weave formation and set-up. Experienced buyer. Now employed. Minimum 30 days notice required. Reply PW-6525, Textile World.

**Weaving expert, known specialist in textile-**designing and in creation of new textures in chemical yarns, with 30 years practice German, immigrated to Canada last year, wants position in weaving. PW-6427, Textile World.

**Weaving Overseer, now employed in South** America, desires to make change. Experienced on draper and C & K looms, natural and synthetic fibers. Will consider employment in the United States or a foreign country. Available after 60 days. PW-5924, Textile World.

**PTI graduate, age 25, with experience in** standardization work, sales, administration, color matching, and straw dyeing desires a change. PW-6555, Textile World.

**Assistant Chief Engineer, structure, equip**ment and machine design, layout, process development; mechanical engineer, P.E. license; will consider Southern location. PW-6584, Textile World.

**Research Director—B.S. and M.S. degrees in** textiles and 17 years in textile research and production and personnel management. Experienced with all fibers, a specialist with spun and filament synthetics. Development experience in apparel, household and industrial fabrics, including nonwoven. Practical and scientific knowledge of processing from fiber to finished textile. Age 38. PW-6606, Textile World.

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**COATING & LAMINATING OF FABRICS—PAPER—VINYL, open time, Pressure-Sensitive, Heat-Seal, Ravelproof, pyroxalin, waterproofing, release-coating, gumbacking.**

**AMERICAN COMBINING CORP.**
**7236 Burchell Av. Rockaway Beach, N. Y.**
**Ne-4-4470**

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*Attention . . .*

## EMPLOYMENT ADVERTISERS

**Effective with the July issue, a new section will start in TEXTILE WORLD. We will head this section: EMPLOYMENT OPPORTUNITIES. All Displayed Employment Opportunity advertising will be placed in this new section, with the exception of those advertisers who contract for run-of-book position. Advertisements in the EMPLOYMENT OPPORTUNITIES section will be billed at the new open rate of $14.85 per inch. Contract rates furnished on request. Advertisements are subject to Agency Commission.**

***For full information write:***

## TEXTILE WORLD

***Classified Advertising***

**330 West 42nd St., New York 36, N. Y.**

IPA

# LIQUIDATION SALE

## ALL MODERN MACHINERY and EQUIPMENT of

## R. W. BATES PIECE DYE WORKS,

**Garnerville, New York (30 Miles North of New York City)**

***Our representative, George H. Hansen, on premises during regular business hours and by appointment***

**SEND FOR ILLUSTRATED BROCHURE**

### PARTIAL LIST—We welcome your inspection

25—DYE BECKS, ALL STAINLESS STEEL, *ENCLOSED* AND OPEN TYPES, 2', 3', 4', 6', 8', 10', 12', 16' WIDTHS, ALL 40" DEEP, MOTOR DRIVES, 1947-1954.
4—70" TENSIONLESS DYE JIGGS, *ENCLOSED*, ALL STAINLESS STEEL, MOTORS, 1951 MODEL.
2—70" TENSIONLESS DYE JIGGS, ALL STAINLESS STEEL, MOTORS, 1951.
2—60" TENSIONLESS DYE JIGGS, ALL STAINLESS STEEL, MOTORS, 1951.
3—70" SEMI DECATORS, DOUBLE VACUUM PUMPS, BLANKETS, MOTORS, 1950 MODEL.
1—60" SEMI DECATOR, PUMP, BLANKET, MOTOR DRIVE, 1950 MODEL.
1—66" HINNEKENS BOIL-OFF, STAINLESS STEEL CHAIN, 1950 MODEL.
1—52" HINNEKENS BOIL-OFF, STAINLESS STEEL CHAIN, 1947 MODEL.
1—70" CALENDER, 3 ROLL HYDRAULIC, 14 TON PRESSURE, 1954 MODEL.
1—PALMER TENTER PAD UNIT, 66" WIDTH, 50' TENTER FRAME, FULLY SYNCHRONIZED, 1948.
1—50' X 66" TENTER FRAME, BALL BEARING, ENCLOSED GEARS, STAINLESS STEEL TOP OPENING CLIPS, MOTOR AND REEVES DRIVE.
1—50' X 50" TENTER FRAME, ENCLOSED GEARS, STAINLESS STEEL TOP OPENING CLIPS, MOTOR AND REEVES DRIVE.
2—66" MICROSET PADDERS, 2 RUBBER ROLLS, S. S. DIP PANS, MOTORS, 1950.
1—66" HYDRAULIC PADDER, 2 RUBBER ROLLS, S. S. DIP PAN, MOTOR, 1950.
5—EXAMINING MACHINES, 60" X 72" WIDE, MOTORS.
2—70" BEAMERS, HEAVY DUTY, MOTORS, 1954 MODEL.
4—60" BEAMERS, MOTORS, 1948, MODEL.
8—HIGH SPEED TUBERS, 60"—70" WIDTHS, MOTORS, 1950 MODEL.
4—VACUUM PUMPS AND MOTORS, L-4, L-5, L-6.
1—66" SCUTCHER, BALL BEARING, 1954 MODEL.
1—48" EXTRACTOR, MONEL BASKET.
60—TRUCKS, BOX, FLAT, ROLL, ETC.
COMPLETE WATER FILTERING AND SOFTENING UNIT.
MACHINE SHOP.
2—BILLING MACHINES.
DESKS, FILES, OFFICE MACHINES, ETC.
ALL SUPPLIES: STORAGE BINS, SCALES, TANKS, LIFTS, ETC.
5—MERROW SEWING MACHINES ON PORTABLE STANDS, BUTT SEAM, MOTORS.

**FOR COMPLETE DETAILS, WRITE—WIRE—PHONE**
***SPECIALISTS IN PLANT LIQUIDATIONS***
**EXCLUSIVE LIQUIDATORS**

*SOUTHERN OFFICE*
**IPA SOUTHERN, INC.**
610 S. Carolina Nat. Bk. Bldg.
Greenville, South Carolina
Tel: 2-3561

IPA

*NORTHERN OFFICE*
**INDUSTRIAL PRODUCTS OF AMERICA**
140 Market St., Paterson, N. J.
*Tel:* Sherwood 2-6614 Cables: Texindus

# LIQUIDATION SALE of the Former GOSNOLD MILLS, New Bedford, Mass.

*Cotton and Synthetic Spinning and Weaving*

**Real Estate: 350,000 sq. ft. brick mill buildings and warehouses.**

**MACHINERY:**

2—Lines H & B Opening Blending and Bale Breaking—1946.
3—H & B Single Process Pickers, 40" wide—1946.
28—H & B Cards, 40" wide, 20" doffer, spindle back.
26—Whitin Model D Combers, 8 doublings.
6—H & B Hi-Draft Slubbers 10 x 5, 104 Spdls.
8—Saco-Lowell Model F8-1 Slubbers, 8 x 4, 128 spdls.
10—Whitin L.D. Spin. Frames, 256 spdls., 3" ga., Tape.
48—H & B Spin. Frames w/Whitin Super Draft, 1952, 256 spdls., 3" ga.
16—H & B Spin. Frames w/Whitin L.D.—1948, 256 spdls., 3" ga.
16—H & B Spin. Frames w/Whitin L.D.—1948, 240 spdls., 2¾" ga.
32—H & B Spin. Frames w/SL Roth L.D.—1952, 288 spdls., 2¾" ga.
14—Whitin Twisters, 240 spdls., 3" ga., 2½" ring.
1—Barber-Colman Spooler, 306 spdls., Type C, Model KK.
300—Crompton & Knowles C6 Looms, 4 x 1 box, 52" r.s., motor, 1941.
68—Crompton & Knowles C6 Looms, 4 x 1 box, 66" r.s., motor, 1946.
158—Draper Model E Jacquard Looms, 40", 400 hook.
34—Draper XD Looms, 54" r.s., dobby, Diehl drive—1951.
24—Draper XD Looms, 54" r.s., dobby, motor, 1942.
4—Saco-Lowell Slashers, 2 cyl. 57", Brown controls.
10—Curtis & Marble Clip Spot Shearers, 57½" wide.
5—Sipp Horizontal Warpers with Creels.
1—Cocker Hi-Speed Warper 54½" wide, no creel.
1—Hygrolit Yarn Conditioner, Model AY—1949.
4—Barber-Colman Portable Tying-In Model—K and LL.
3—Foster Winders, Model #102, 120 spdls., springs, motor—1952.

**DYEING AND FINISHING MACHINERY FOR SALE**

7—Van Vlaanderen Duplex Stainless Steel Dye Boxes, 6' and 8' wide.
1—Riggs Lombard Enclosed Stainless Steel Dye Box, 4' wide—1950.
1—Van Vlaanderen Palmer Tenter Unit, 60' long x 50" wide.
1—Werner, Heavy Duty Tenter Frame, 50' long x 60" wide.
1—Werner Pneumatic Padder, 50" wide, 2 rubber rolls—10 ton.
1—Van Vlaanderen Pneumatic Embossing Calender, 54", age 1952.
12—Morrison & Werner Dye Jiggs, 50" wide, stainless steel rolls.
1—Hurricane Loop Dryer, 40' long x 12' wide x 10' high, 4 fans.
2—Textile Open Width Washers, 78" wide, 3 compartments each.
2—Van Vlaanderen Quetches, 2 rolls, 60" wide.

**REPUBLIC TEXTILE EQUIPMENT CO.**
40 WORTH STREET NEW YORK CITY
REFINANCING · APPRAISALS · PURCHASE · SALE · LIQUIDATION OF MILL PROPERTIES

# BIALEK'S BEST BUYS

72—C&K, C-4, 80", 4x1 AUTO CONV. TO 4x4 DOBBY

15—SPINDLES, WHITIN AUTO QUILLER

50—DRAPER 24" ADJ. STEEL BEAMS FOR 50" LOOMS

1—JOHNSON SILK SYSTEM SLASHER, 74"x30", 7-DRUM S.S. WITH TEFLON

1—JOHNSON SLASHER, 60x30, S.S. WITH B.C. ELECTRONIC MOISTURE CONTROL

**THEODORE BIALEK & CO.**

6704 EMPIRE STATE BLDG.
NEW YORK 1, N. Y.
*LONGACRE 3-4978-9*

JACKSON AT 20th AVE.
PATERSON, N. J.
*LAMBERT 3-5886*

# TEXTILE AUXILIARIES

**WE SPECIALIZE IN FINISHING MACHINERY**

**ALL OUR EQUIPMENT IS RECONDITIONED IN OUR WAREHOUSE FOR IMMEDIATE DELIVERY**

1—15 ton "Hydraulic" 72" Hunter, B. B. Pad or Squeezer, Practically new.
3—12' "Rodney Hunt" True Shade all stainless steel Dye Becks.
1—3 roll 40" 1—3 roll 45" and 1—3 roll 50" Calender.
4—72" Butterworth Cotton Dye Jiggs.

Copper Dry Cans from Single Can 40" wide to complete sets up to 40—120" wide.
Also, spare Pad Rolls and Calender Rolls and Tenter Chains of all makes.
Motors A.C. & D.C. from 1 H.P. to 100 H.P.

Office—146 West River St.
Telephones—Dexter 1-9650, 1-8837

**PROVIDENCE, R. I.**

# WE OFFER FOR SALE

AT THE

# HORNER WOOLEN MILLS COMPANY

**EATON RAPIDS MICHIGAN**

**PICKING**

1—Schofield Rag Picker 18 x 30"
1—D & F 48" Fearnaught Picker with Bramwell Hopper

**CARDING**

6—60" Duesberg-Bosson Peralta Rolls
6—60" Bramwell Super Card Feeders
10—60" Wide x 48" Diameter Iron Card Breakers
10—60 x 60 Card Breakers
1—Whitin 1947 Finisher Breaker 60 x 60
2—Whitin 1947 60" Double Rub Tape Condensers 96 Ends Ball Bearing Eccentrics
6—Waste End Blowers

**SPINNING**

2—Whitin 200 Spindle Wool Spinning Frames 4" Gauge 3" Ring Serial #773A - 710A

**TWISTING**

3—Collins Plain Twisters 120 Spindles each 6" Gauge 4½" Ring, Motor Driven

**KNITTING**

4—S-1 Tompkins Knitting Machines, complete with 10 feeds, 30" cylinders
12—Tompkins 2 head Knitting Machines with 10 feeds, cylinders 26 to 35" Approximately 5000 parts of all kinds included with unit

**WEAVING**

24—Crompton & Knowles 92" W-3 Looms. Serial 16525
8—Crompton & Knowles 92' W-3 Looms Serial 16352

**FINISHING**

1—James Hunter Hydraulic Squeeze Roll Unit, new rubber rolls 66"
1—James Hunter Hydraulic Squeeze Roll Unit 78"
3—James Hunter Model 26B Fulling Mills Rubber rolls
1—Parks & Woolson Velour Brush Late Model
1—Davidson Shear 2 Blade 66"
1—Grand Rapids Knit Goods Turning Machine

Many other items such as scales, blowers, motors, etc.

**W. S. HILL ASSOCIATES, INC.**
BOX 492
Norwich *Tel—Turner 7-3561* Connecticut

# FOR SALE

6 U.S. Textile Vertical Wind Spoolers—like new. 100 Spindles per machine
10,000 Bottle Type Bobbins for above machines.
15,000 Take Up Fibre Tubes—headless package type
750 Stainless steel tube boards
500 Cadmium plated pin boards
100 Skids for tube boards or pin boards
1 H W Yarn Conditioning Box—1952 Model—Electric
1 FNF Tricot Machine 34" Wide, 28 Gauge
2 Maretti Type Circular Warp Knitting Machines—one 18 Gauge and one 28 Gauge
2 Warpers—One Cocker and One Saupe—both to be used with bobbins of 14" Flange, 14" or 21" length
1 Selvage Marking Machine—Built by Milford Astor in England
1 Pin Tenter Frame and Housing—Frame built by Textile Finishing Machinery Company—Chain and Housing by D. R. Kenyon Company—Frame width 36 inches to 150 inches. Length—61 feet. Housing 19' 8" Wide and 38' 6" Long

All equipment is in excellent condition and is ready to operate.

**BLUE RIDGE TEXTILE COMPANY, INC.**
SALVAGE DIVISION
HIGH AND KLINE STREETS
BANGOR, PENNSYLVANIA
TELEPHONE: BANGOR 304

**1 John Waldron 2-Roll Rubber Covered Calender**

**Roll Size 12" x 10'**

**R. Gelb & Sons, Inc.** UNION, N. J. *Murdock 6-4900*

# NOW LIQUIDATING
# MACHINERY— EQUIPMENT— SUPPLIES
## Mill G (Palm Beach)
# GOODALL-SANFORD, INC., Sanford, Maine

1—Bramwell 48" Picker Feed. M.D.
3—Sargent 48" x 2 cyl. Wool Openers, 1—Rebuilt 1952, M.D.
1—Sargent 48" Mdl. N Wet Feed.
1—Sargent 24" x 20' Rubber Belt Wool Stock Conveyor, yr. 1952, variable M.D.
1—Sargent 48" x 3-bowl Scouring Train, 54" Feed, B.D.
1—D&F 48" x 6-bar Mixing Picker, M.D.
1—D&F 10' All Iron Cone Duster, M.D.
12—D&F and S&F 60 x 60 Sql. cyl., 2 Lickerin, Breast Type Worsted Cards, AH Iron.
7—D&F 60 x 60 Dbl. cyl., 2 Lickerin, Breast Type Worsted Cards, All Iron.
25—P-S & S-L 7/16" p Intersecting Gills, Sql. Head, Sql. Can.
32—J. Smith Noble Combs 68" Rack, 12" Collers.
28—S-L & P-S 200 Spdl. x 3½" p x 2¾" Herr. Ring Worsted Spg. Frames, Whitin Compensating Ring Rail Changeovers. M.D.
2—H&W Yarn Conditioners Type Spec. ST3, Ser. #44 & 45, yr. 1948, FO 267, 72" x 74" x 79".
1—Niagara Twist Setter Mdl. X, Ser. #91, Inco Monel Construction, M.D., Pump, etc.
500—Spaulding Fibre Filling Boxes 19" l. x 9" w. x 18" d.
1—Gessner 66" x 36" Dbl. cyl. Cloth Steamer, Variable Speed M.D.
4—Stead Bros. 3-bowl Yorkshire Crabs 72"-118".
1—Tolhurst 48" Open Top Centrifugal Extractor. M.D.
1—Kenyon 12-pass Pin Tenter Cloth Dryer M.D.
2—Philadelphia 12-pass Pin Tenter Cloth Dryer M.D.

### WINDING

12—Whitin Schweiter 30 Spdl. Automatic Filling Winders, M.D. Yr. 1947-1948.
3—Abbott 100 Spdl. x 6" Tr. Mdl. 65 Auto, Wood Tube Winders, Bobbin Loaders, M.D., yr. 1951.
2—Universal 120 Spdl. Mdl. 44 Roto Coners, Steel Drums, Paper Cones, M.D., yr. 1947.

### LOOMS

105—C&K 82" Mdl. W-3 Convertible 4x1 Auto Looms. M.D. L/O No. 14,198 to 16,595.
2—C&K 82" Mdl. W-3A Non Convertible 4x1 Auto. Looms. M.D. L/O No. 16,602.
3—C&K 92" Mdl. W-3A Non Convertible 4x1 Auto. Looms. M.D. L/O No. 17,556.
3—C&K 106" Mdl. W-3A Non Convertible 4x1 Auto. Looms. M.D. L/O No. 17,557.
104—C&K 82" Mdl. W-3 Non Convertible 4x1 Auto. Looms. M.D. L/O No. 15,245 to 16,245.

### PIECE DYEING

*All Piece Dye Kettles are STAINLESS STEEL, TOTALLY ENCLOSED. Have Foxboro Cyclelog Controls and M.D.*

6—J. Hunter 11' x 7'6" x 5' yr. 1949, Type 316 S.S.
5—J. Hunter 6' x 7'6" x 5', yr. 1949, Type 304 S.S.
4—R&L 11' x 8' x 5', no cyclelogs.
5—R&L 7' x 8' x 5', no cyclelogs.
1—J. Hunter 24" x 60" x 48", yr. 1949. No cyclelogs.
2—Morrison 66" S.S. Dye Jigs M.D.

### DRY FINISHING

1—P&W 66½" 3-Blade Davidson Shear, Ser. #8384. Air Guiders, Flox Removal System, M.D.
1—P&W 82" 4 cyl. Cloth Brushing Machine. Ser. #9882, yr. 1953. Flox Removal System, M.D.
1—Gessner 72" x 48" Versamatic Semi-Decating Machine. Ser. #ST1044, yr. 1953, Complete.
1—Gessner 96" x 15" Rotary Cloth Press, M.D.
5—P&W 66½" Manayunk Type Open Width Cloth Rolling and Measuring Machines, yr. 1936-1948, M.D.
4—Trumeters, Wooco Models, Type B, Late type with moving ribbons.
2—Windle, Doubling, Measuring and Winding Machines 64" & 102". M.D.
1—Chandler 32" Power Driven Pinking Machine.
1—Birch 78" x 2-Burner Gas Singer, Ser. #12, Order #28293Z. Complete with Kemp Burners, Reliance Variable Drive, Gas Mixing Carburetor, Flox Removal System and all M.D.

### BEDSPREAD UNIT—(ALL 1952)

1—Hunter 108" x 2-Roll Pad. Ser. #C-1288 Mt. Hope Cloth Guides, Reeves M.D.
2—S.S. Mixing Tanks with Lightening Mixers.
1—Hunter Mdl. DF Uniflow Sgl. Section 12-Pass, 54-102" Cloth Dryer, Ser. #A8300. Askania Guiders, Attachments, Controls, and M.D.

### PAD LINE

1—Textile Fin. Mach. Co. 66" x 2-Roll Pad, Ser. #39972, Air Guides, D.C. M.D., Taylor Temp. Control, Micromax Control.
1—Compensator.
1—S.S. Mixing Tank.
4—Vitreous-Lined Iron Mixing Tanks.
1—Textile Fin. Mach. Co. 5-Bowl Rubber Lined Iron Open Width Washer, Ser. #39974 with 66" Rubber Squeeze Rolls. S.S. Rolls in Bowls, D.C. M.D.
1—Exhaust System Complete.
1—D.C. Generator complete with D.C. Range Drive.

### PAD LINE

1—Textile Fin. Mach. Co. 66½" x 2-Roll Pad. Ser. #381022 with Air Guides and D.C. M.D.
5—Vitreous Lined Iron Mixing Tanks.
1—S.S. Mixing Tank.
1—Butterworth S.S. Ager 72" x 9-Roll, complete.
1—Textile Fin. Mach. Co. 5-Bowl Open Width Washer with 66" Rubber Squeeze Rolls. 2-Bowls Rubber Lined Iron, 3-Bowls S.S. S.S. Rolls in Bowls. Complete with D.C. M.D.
1—Exhaust System Complete.
1—D.C. Generator complete with D.C. Range Drive.

### CONTINUOUS CLOTH WASHER (ALL 1950)

1—Hunter 9-Bowl x 90" S.S. Continuous Cloth Washer, Ser. #V4600 with M.D.
1—Cork Detwister with Photo Electric Control.
1—Hunter S.S. Ceiling Scutcher with M.D. and Vacuum Tube.
1—Nash-Hytor L-6 Pump with Tank, Piping and M.D.

### DRYER UNIT—(ALL 1952)

1—Hunter 84" x 2-Roll Pad with Air Guides and M.D.
4—S.S. Mixing Tanks with Lightening Mixers, 30" & 42" x 36".
1—Hunter 42-78" Mdl. G 3 Section x 12-Pass Tenter Cloth Dryer. Ser. #A2300. Askania Guiders, Controls, M.D.

### PAD RESIN LINE

1—R&L 72" x 2-Roll Pad, Ser. #2538, Air Guiders, Reeves M.D., yr. 1954.
4—S.S. Mixing Tanks with Lightening Mixers, 30" & 42" x 36".
1—P&S 72" x 100' Pin Tenter. Ser. #K7855D. All Controls, Attachments, M.D. Yr. 1950.
1—Compensator.
1—P&S 72" x 2 Unit Loop Dryer. Ser. #K7851. Attachments, M.D. Yr. 1950.

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2—Foster model #102 CONE WINDERS, 88—80 spdl. units, wood cones 8" mtrzd.
2—Foster model #102 TUBE WINDERS, 80 spdl. units, 6" traverse, mtrzd.
3—Schweiter model MS BOBBIN WINDERS, 21—36 spdl. units, mtrzd.
1—B-C TYING-IN MACHINE, model K, portable, B&W Knotters.
1—Butterworth Straightaway PIN TENTER DRYER 90' x 108" with housing, fans, mtrzd.
1—Kenyon Straightaway PIN TENTER DRYER 90' x 72" with housing, fans, mtrzd.
1—Van Vlaanderin CLIP TENTER FRAME closed gearing, 20' x 60".
1—C&M SINGER 84" 3 brass burners, compressor, Needham Mixer.
1—P&W Davidson Hi-speed SHEAR 3-blade 66½" fully equipped, B.B. mtrzd. etc.
1—Gessner model #20 Hi-production Rotary STEAM PRESS 72" double bed.
1—S&L Combination OPEN & FINISHER PICKER 40" Kirschener 3-blade pin type Beater, mtrzd.
2—D&F Knit Goods NAPPERS 80" gear driven, mtrzd.
1—P&W NAPPER 80" D.A. 20-roll B.B., Reeves and motors.
1—P&S Wet Stock PICKER FEED 45".
16—C&K W3 auto. LOOMS 4 x 1 mtrzd., 4—72", 4—76" and 8—82".
18—C&K auto. LOOMS, 4 x 1 mtrzd., 12—92" and 6—110".
1—R&L S.S. DYE KETTLE, 70" x 60" deep, Gotham Control, mtrzd.
2—C&M Ceiling SWING FOLDERS, adjust. 90" mtrzd.
1—C&M CLOTH FOLDER 72" 1—yd., mtrzd.
3—Whitin 48" Intermediate Broad Band FEEDS, J-1 Card Conveyor, comp.
1—Hunter Raw Stock DRYER, single conveyor 98" width, 12 fans, 2 sec. unit.
1—Kenyon PIN TENTER DRYER, 12-pass 66", fans, mtrzd., etc.
3—P&W Springfield Model 66" DOUBLING, WINDING & MEASURING MACHINES.
3—Gessner SEMI-DECATURS 72", Pumps, mtrzd., etc. 24"—36"—60" dia. Cylinder Units.
1—Entwistle Magazine CREEL, 504 live ends, hackstand 56".
2—Hadley Spinning Roll Cleaning and Parchment COVERING MACHINES, mtrzd.
2—P&S model #549 double drum CEILING CONDENSERS.
1—Textile 3-roll CALENDAR 44", motor and reducer.
1—P&W 4-roll BRUSHING & SANDING MACHINE 68" with Folder.

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4—H&B Drawing Frames, 10" coilers
2—B/C Warpers, HW 54½" Hi-speed
2—Entwistle Warpers
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500—12" x 36" Roving Cans
50—Boyce Weavers Knotters, A, B, C
10,000—Dixon Saddles
5,000—Tape Drive Conversions from Mason Frames
3—#34 S/L Air Filters
1—Vacuum Stripper Tank & Pump
4—Model K & L Bobbin Strippers
137—XD Draper Looms, 68" cloth, dobbies
1—XD Draper Looms, 46" cloth, dobby
48—Hunt Looms, 48" cloth, 1948, dobbies
400—Draper X looms, 40" x 44" cloth cam
All kinds of looms listed—write us
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100,000 Heddle Frames, 44" to 100" long
10,000,000 Heddles, all sizes & styles
300—Dobbies, 16 & 20 harness, ⅝" gauge
15,000 Rubberized Fabric lug straps—NEW
20,000 Davis Canvas Lug Straps—NEW
10,000 Pick Gears, Draper L560, 261, 264 series
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1—42" R.B. & F 12-color Print Machine with blanket washer, blanket dryer, dry cans, 50 H.P. DC motor drive.
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1—102" Proctor & Schwartz Loop Dryer. 30' box, Serial No. K9220; individually motor driven fans. 1951 Model.
1—100" Proctor & Schwartz Air Lay Dryer; 14 individually motor driven fans. Machine Serial No. K1117.
1—124" Textile 40 Can Dryer. Vertical frames. 35 copper cans. 5 iron cans. 23" dia. x 124" face. Syphon cans M.D.
1—50" Textile 31 Can Dryer. Vertical frames. 28 copper cans. 3 iron cans. 23" dia. x 50" face. Syphon cans M.D.
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1—52" Winsor & Jerauld Tenter Unit. 90' long with Proctor & Schwartz enclosed housing. Tenter chain same as above. Equipped with electric eye. Housing Serial No. K6077.
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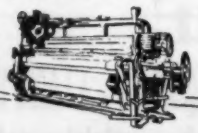

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½ lb. pkge. 90 spindles per machine. 5" spacing. 3" Eadie rings. Double 2" feed rolls. Excellent condition.

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1952 MODEL

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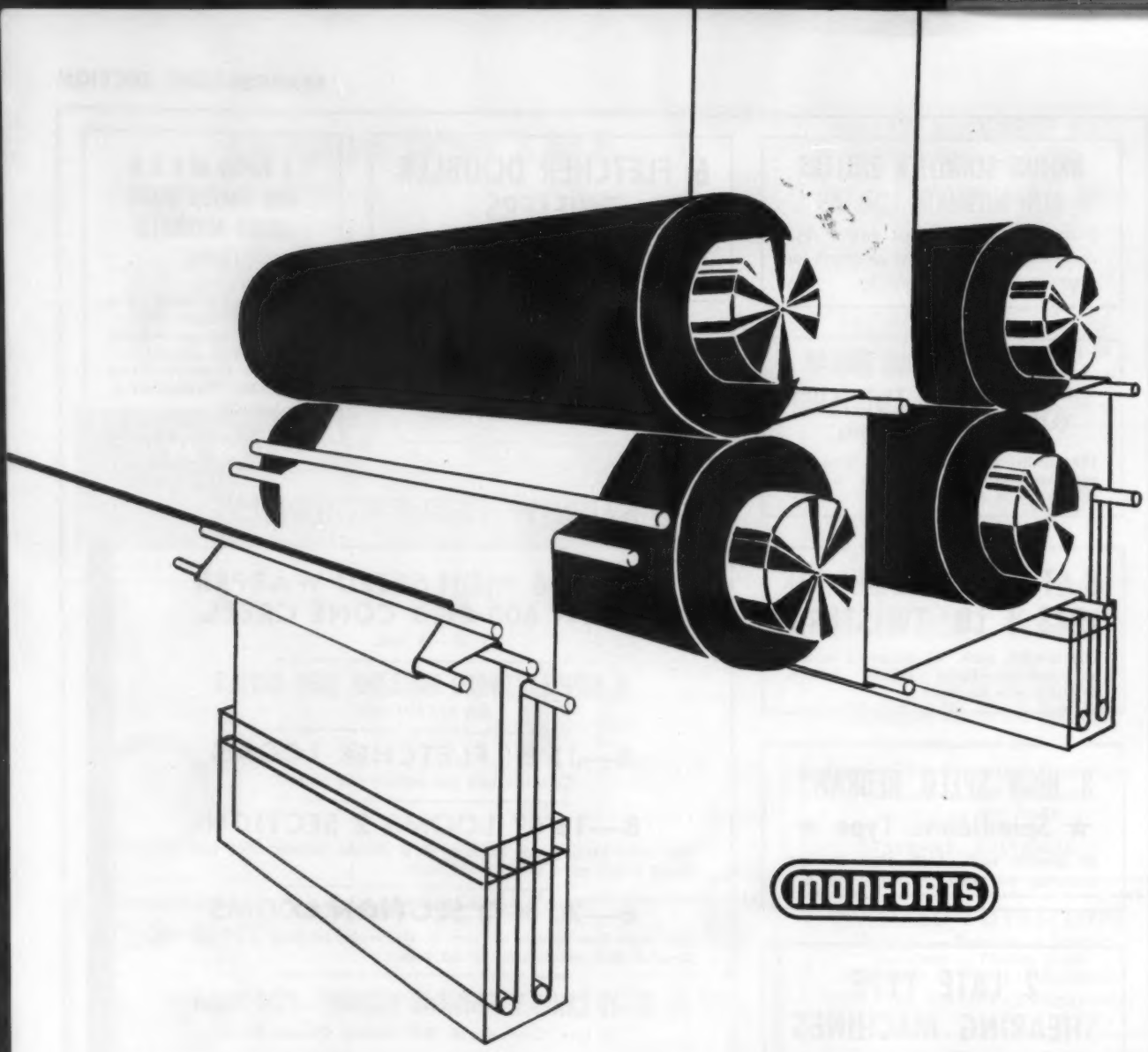


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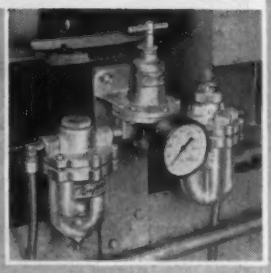

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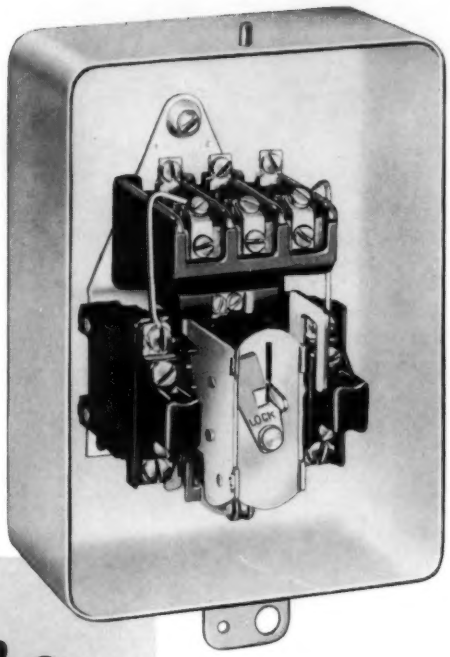
| Williams Machinery Co. | 285 |



# *New*— ALLEN-BRADLEY BULLETIN 609L MANUAL STARTER FOR LOOM MOTORS

Here is a new loom starter designed for weave shed conditions. The lint-tight enclosure is bonderized for lifetime resistance against corrosion. Lint or dust cannot enter the enclosure, due to the tight-fitting rubber gasket around the cover. The control lever is so shaped that it cannot be actuated accidentally, nor by a kick of the loom operator.

Starting and stopping can only be done intentionally by the operator. The cover interlock also prevents removal of the cover unless the control lever is in the OPEN position.

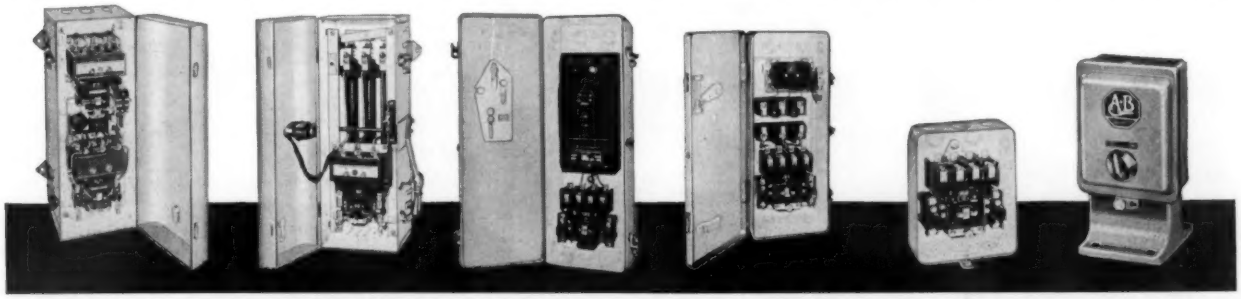
Two thermal breakers will trip the starter and stop the motor if it is overloaded. The loom operator can reset the breakers without opening the cabinet. These starters can be supplied with single or double pedestal mounting.

Allen-Bradley Co.
120 W. Greenfield Ave.
Milwaukee 4, Wis.

**ALLEN-BRADLEY**
SOLENOID MOTOR CONTROL
QUALITY

in Canada—
Allen-Bradley Canada Ltd.
Galt, Ont.

## ALLEN-BRADLEY QUALITY CONTROLS FOR TEXTILE MILL SERVICE



Bulletin 740 Velvet Smooth Automatic Resistance Starter

Bulletin 640 Stepless Manual Compression Resistance Starter

Bulletin 713 Combination Starter with Circuit Breaker

Bulletin 712 Combination Starter with Manual Disconnect

Bulletin 709 Automatic Across-the-line Solenoid Starter

Bulletin 609L Manual Loom Motor Starter—Pedestal Mounting

# *Count on*
# VEEDER-ROOT

## for Profit-Protection all through the mill

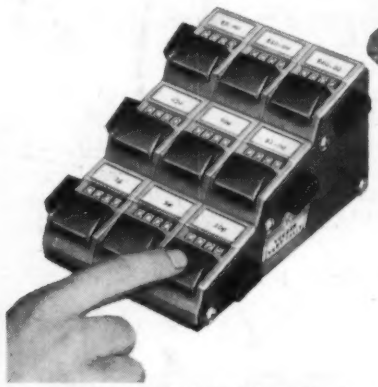
2-3-4 Shift Pick, Hank, Yardage and Knitting Counters are convertible right in the mill . . . when, as and if operating conditions warrant. They keep accurate count of production . . . help your workers do a better job.

Loom Cut Meters help reduce short lengths and seconds . . . and make possible the sale of uniform lengths . . . without cut marks. Cut Meter records measurement of cloth as it passes over the sand roll.

New "Vary-Tally" Multiple-Unit Reset Counter is useful in many departments of mill operation, from inventory to inspection, or any other job where classification and count of types is desired. Made in combinations up to 6 banks high and 12 units wide . . . also in single units.

Accurate count is sound Cost-*Countr*ol all through the mill. Check with the nearest Veeder-Root office today on your own counter needs.

Loom Cut Meters for assuring uniform cut lengths of cloth . . . without cut marks.



"Vary-Tally" Multiple-Unit Reset Counter for inspection, inventory, etc.

2-3-4 Shift Convertible Counters for looms, frames, knitting machines, etc.

**Get this Veeder-Root "COUNTROL PACKAGE" on All Machines**

| ON LOOMS | ON FRAMES |
|---|---|
| 2-3-4 PICK COUNTER | 2-3-4 HANK COUNTER |
| CUT METERS | VARY-TALLY |

# VEEDER-ROOT INC.

HARTFORD 2, CONN. GREENVILLE, S. C.

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